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A Clinical Lecture
ON
TUBERCULOSIS OF THE URINARY TRACT.

Delivered at the Prince of Wales's General Hospital, Tottenham, N.,

BY J. HOWELL EVANS, M.A., M.B., M.CH. OXON., F.R.C.S. ENG.,

LATE HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND; LECTURER ON DISEASES OF THE GENITO-URINARY SYSTEM AT THE NORTH-EAST LONDON POST-GRADUATE COLLEGE, ETC.

GENTLEMEN,—Diseases of the urinary tract afford an example of one of the most remarkable and rapid progresses which have ever been made in any particular branch of surgery. This is shown not only in the perfected state of urethral, vesical, and ureteric instrumentation, but in urinary antiseptics—e.g., hexamethylene-tetramine and its various preparations, of which I shall refer to cystopurin, a double salt of hexamethylene-tetramine and sodium acetate, which can be employed freely, safely, and effectively in all affections of the urinary tract, whether of toxic or bacterial origin. It has the particularly satisfactory result of clearing away septic conditions associated with tuberculosis of the kidney, so that the true relation of tuberculosis to the clinical urinary condition can be determined, and the desirability of excision of a kidney can be the more accurately gauged. Of recent years this great advance in urinology has been contemporaneous with the progress of physiological chemistry and bacteriology.

DIAGNOSIS.

Coincident with improved methods the less practical classification of acute and chronic cystitis has been supplanted by a nomenclature based upon chemical and bacteriological findings. Formerly any chronic inflammatory condition of the bladder—in the absence of evidence of gonorrhœa, stricture, or instrumental or other traumatism—always gave rise to a suspicion of the tuberculous character of the trouble; but consequent upon the perfection of visual apparatus and accessory modifications the experienced surgeon can not only obtain a view of the interior of the bladder, irrigate the bladder, and apply topical treatment *vid* the tunnelled cystoscope, but can direct a suitable sound or catheter into either ureter or both ureters, even to the renal pelvis itself, and thereby irrigate the very calyces. The applicability of this instrumentation may by many be adversely criticised, but personally I am convinced that when the rationale of such a procedure is logically correct this renal irrigation should be carried out; when this course is impracticable the urine from either lateral half of the bladder, and deductively from either kidney, should be collected and examined unless contraindicated by the vesical condition diagnosed.

To-day we surmise that many cases of chronic cystitis are of tuberculous origin—apart from the finding of tubercle bacilli in the urine—by the result of employing one of the following tests: (1) Calmette's ophthalmo-reaction; (2) von Pirquet's cutaneo-inoculation; or (3) Moro's percutaneous reaction. And it may be well to mention that repeated examinations for tubercle bacilli proved negative owing to their staining powers having been diminished or even destroyed, so that inoculation methods were necessary to corroborate the presence of tuberculosis prior to the discovery of the "antigen."

Through the cystoscope the interior of the bladder may be subjected to a rapid and methodical examination, so that the slightest lesion or alteration of the mucous membrane of the bladder, the appearance and action of the ureteric orifices are easily observed. Cystoscopy can scarcely be contraindicated in any lesion of the urinary tract with symptoms of cystitis, except an acute or subsiding urethritis. I must, however, concede that an inflammatory condition of the bladder may be aggravated or extended by infection with pus organisms carried upon a sound employed over-zealously in the useless search for a calculus which an early vesical tuberculosis oftentimes closely mimics—but this belongs to a series of woes of decadent surgery. If the practitioner conducts the irrigation with surgical cleanliness and appropriate gentleness of touch, then the procedure neither introduces fresh pyogenic organisms nor induces intravesical trauma. The antecedent infection by pyogenic organisms can be to a great degree eliminated prior to instrumentation by the administration of cystopurin, whereas such existing causes of cystitis can by repeated or continuous irrigation be cleared away before the carrying out of systematic and complete diagnostic methods.

What are the diagnostic data which we need collect? The urine must be systematically examined for blood, micro-organisms, and histological elements to guide or endorse the clinical diagnosis. The urine examined should be free from any urethral contamination, and preferably the urine secreted by each kidney should be collected separately and examined separately.

Differential diagnosis may call for careful and often repeated examination—e.g., chemical, hæmatological, radiological, microscopical, and bacteriological, so similar may be the symptoms of any lesion of the urinary tract. As the urinary condition often constitutes, without pain, the chief clinical evidence of tuberculosis, so the necessity for differentiation by bacteriology arises, whereas without the cystoscope and ureteric catheter the situation of the disease, whether it involves the kidney, the bladder, or the lower part of the ureter, is difficult or even impossible to establish.

SEPTIC INVASION OF THE URINARY TRACT.

It is a frequent clinical occurrence that the advent of pyogenic organisms to a pre-existing tuberculous lesion produces a rapidly extending tissue destruction—cf. pulmonary and renal. A tuberculous kidney is an inadequate kidney, consequently septic organisms are delayed and by accummulation set up a pyelitis and pyelonephritis with a consecutive cystitis. It is to deal with this septic invasion of the urinary tract that diuretics and urinary antiseptics must be employed.

The particular effect produced by hexamethylene-tetramine is attributed to the liberation of formaldehyde not only in the urine but in the tissues; however, the amount of formaldehyde set free is not commensurate with the effect produced—the quantity of formaldehyde found in the urine is insufficient to account for the extensive action of even a limited quantity of cystopurin. The fact that hexamethylene-tetramine is excreted into the saliva, pancreatic juice, bile, pleuritic, peritonitic, and even synovial effusions, as well as into the cerebro-spinal fluid, whereas it can likewise be readily detected in the blood and secretions of the mucous membrane of the upper respiratory passages, has led to its employment as a prophylactic as well as a therapeutic measure. Allow me here to digress and refer to the work of Flexner in poliomyelitis, of Chauffard in typhoid fever and acute biliary infections, of Shatuck in pneumonia, and of Crowe upon the above diseases and many other infective processes. You will not be surprised to learn of the extensive use of this drug, in the form of cystopurin, because the work of Dr. Crowe goes far to prove that in hexamethylene-tetramine we have a most valuable pre-operative and post-operative medicament apart from its direct urinary effects.

UNILATERAL ONSET AND PROGRESS.

Tuberculosis of the kidney is, in the correct sense of the word, "secondary" to a tuberculous lesion elsewhere in the body—usually in the lung as a slight lesion more than less latent and apparently taking only a subsidiary part in the clinical picture. Owing to this hæmatoferous origin the kidney is necessarily the first point on the urinary tract to be attacked. Under these circumstances the tubercle bacillus is conveyed to the kidney without leaving any clinical trace either at its previous nidus, which is apparently latent, or at its point of entry, so that the renal focus appears clinically to be "primary."

Overwhelming statistical evidence goes to prove the unilateral onset of tuberculosis of the kidney. It is a question of some magnitude whether the second kidney is invaded by extension from the first kidney, or whether the projection of the lesion is made from the same clinically latent focus. If the second kidney must inevitably become affected even after unilateral nephrectomy whereas the clinically latent focus remains unextirpated, then the highest judgment of the surgeon "when not to operate" is called for.

Unilateral renal tuberculosis, insidious in its onset, is progressive in its course, affecting in due time the ureter and the bladder, whereupon the most striking and constant symptoms of the malady become evident. The second kidney after a varying interval may become affected, and finally the whole system may be invaded so that the patient dies from a "renal phthisis" analogous to a "pulmonary phthisis." It becomes, therefore, right and proper to employ operative measures as soon as the diagnosis of unilateral tuberculosis can be arrived at. This rests upon the indisputable evidence of bacilliferous pyuria, however slight, of tuberculous origin as evidenced by the microscope or by the antigen; further, this must be unilateral as found in the urine collected by ureteric catheterisation, and gives a precise and early diagnosis demanding early nephrectomy.

The most indicative symptom experienced by the patient is "cystalgia," usually a scalding set up by toxic and pathogenic irritants which produce an œdema, congestion, or a minute ulcerative papillitis on the mucous membrane surface at one ureteric orifice, extending to the trigone and the urethral orifice, with considerable discomfort culminating in severe pain, frequent micturition, and urethral smarting. These painful symptoms are greatly diminished by cystopurin, allowing of an early and complete intravesical examination accompanied by irrigation, not only of the bladder, but, *viâ* the ureter, of the pelvis of the kidney; for this irrigation I employ a solution of cystopurin.

In the progress of tuberculosis of the kidney there are periods of exacerbation alternating with periods of remission of variable duration, when all clinical symptoms are wanting, and the general improvement is shown by an increase in the body weight. Do not, however, be misled; these are clinical phases full of treachery to the surgeon of limited experience in this particular subject, as has been demonstrated in patients, though apparently healthy, developing uræmic symptoms.

The establishment of the tubercle bacillus in the mucous membrane of the bladder is favoured by an antecedent affection of the urinary tract; similarly it is retarded by the diuretic and antiseptic action of cystopurin. It is known that urine contaminated by the tubercle bacillus may for years flow over the mucous membrane of the bladder without any trace of an intravesical focus. Inasmuch as the ravages of the unaided tubercle bacillus are slow and inextensive the elimination of any associated septic condition must be considered the first step in the surgery of renal tuberculosis.

DEMONSTRATION OF METHODS.

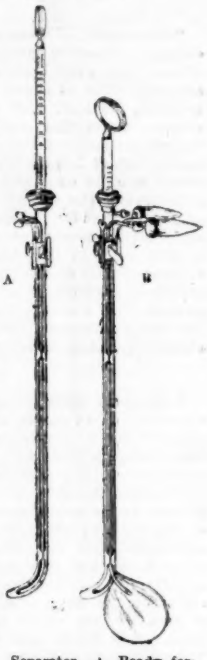
It is now my purpose to demonstrate lucidly the methods which I advocate this afternoon.

Firstly, before you are two test-tubes to the bouillon contents of which equal quantities of the same urine contaminated by pyogenic organisms have been instilled; to one of these test-tubes hexamethylene-tetramine has been added, and by the lesser degree of turbidity which is observable in the same tube there is demonstrated a diminished growth of the organisms.

Secondly, about ten minutes before the commencement of this lecture a dose of cystopurin—two tablets dissolved in two ounces of milk and water—was administered to this little patient, a male child the subject of complete epispadias accompanying ectopia vesicæ, upon whom before his advent to my clinique with septic cystitis several unsuccessful operative attempts had been made. Shortly after the lecture was begun you may have observed that the attendant nurse administered a further six ounces of warm milk and water to which I may tell you some methylene-blue had been added. In the urine already collected upon a mop of sterile absorbent gauze the presence of hexamethylene-tetramine by bromine water and of formaldehyde by Hehner's test will be demonstrated to you. I am next about to pass into each ureter a small ureteric catheter in order to collect the separate urines which presently you will observe to be coloured, thereby demonstrating the passage of methylene-blue through the kidneys. This chromoscopic test is employed as evidence of the equal activity of both kidneys, the diminished or even lost action of either kidney, and is of great value in gauging the amount of active tissue or the degree of ureteric occlusion on the affected side.

Thirdly, in this patient, a female aged 29 years, who some little while ago drank some milk containing methylene-blue and into whose bladder, immediately before the lecture, was passed the separator you now see in position, you observe that, whereas the collecting tube on the right side is full of coloured urine, the left collecting tube is empty. (Fig. 1.) Indeed, you could not expect it to be otherwise, because inspection of the left loin reveals the scar of a nephrectomy performed some five years ago. This imposition was not made in any trifling spirit, but for demonstration purpose. Not only does the general condition of the patient and the normal composition of the urine bear testimony to the beneficent effect of the early nephrectomy, but the capacity to do a heavy day's work has restored her to fulfil her indispensable and exacting motherly cares. A cystoscopic examination which we will presently carry out will expose to your visual gaze the normal passage of the coloured urine through the right ureteric orifice.

FIG. 1.



Separator. A, Ready for introduction with the adapted fan-partition sheathed and the lateral catheters folded. B, After introduction with the adapted fan-partition projected, the lateral catheters everted and the glass-tube collectors in position.

Fourthly, in this patient, a female aged 28 years, I will next illustrate to you the utility of the tunnelled cystoscope for irrigation and demonstrate one of my arrangements for the employment of radium in ulcerous processes and small growths of the bladder; further, the introduction and use of the ureteric catheter will be demonstrated, while the impregnated ureteric probe will subsequently be shown in position by X rays. All this can be done through the same cystoscope—the latest modification of the cystoscope of Albarran as made by Loewenstein, of Berlin—without removal after its primary introduction into the bladder, the same instrument allowing of a wider visual field, a larger calibre for the irrigation channel, and the simultaneous introduction of two ureteric catheters of large size. (Fig. 2.)

SOME QUESTIONS IN REGARD TO OPERATION.

When should unilateral nephrectomy be carried out? Mr. Hurry Fenwick (who, if I understand his writings aright, divides urinary tuberculosis into two groups—(1) Those characterised by "pain" in the loin preceding "frequency" of micturition, renal in origin; and (2) those characterised by "pain" in the loin coincident with or following upon vesical symptoms, vesical in origin) considers the scalding pain in the bladder as the guide to the opportune moment for surgical interference. I would myself reply to this question, "As soon as the diagnosis is established that the lesion is unilateral—i.e., the presence of bacilliferous pyuria as demonstrated from ureteric catheterisation."

Let us for a moment reflect. Can we hope to cure such a condition by medical treatment? Pray keep in mind that we are considering the clinically primary unilateral lesion with its progressive tendency to destroy the parenchyma of the kidney, with contamination of the lower urinary tract, and to infect not only the other kidney but to lead even to a general infection of the body. Whatever amelioration of the condition may be obtained by medication, by irrigation, by tuberculins or sera, or by sanatoria, curability of tuberculosis of the kidney does not belong to these procedures but to nephrectomy, and that early, except when other evident foci contravene. In parenchymatous glands the "healing fibrosis" which is characteristic of the lungs does not obtain. The healed condition of a tuberculous kidney could only be held proven on the evidence susequently gained by frequent ureteric catheterisation.

The beneficial results of nephrectomy are accepted; at least 50 per cent. are completely and permanently cured. A continuance after nephrectomy of antituberculous treatment and of urinary antiseptics will not only delay, but may fairly be expected to avert, in many instances, a reappearance of active tuberculosis.

It was not designed in this lecture to give a systematic account of tuberculosis of each region of the urinary tract, but only to lay before you the result of the observations and experience of the lecturer on the important procedures in the diagnosis of tuberculosis of the urinary tract, how to eliminate the usual accompaniments, and how, whenever possible, to save a kidney, or at any rate to preserve its limited utility over a period when the general health of the patient is being improved and the sound kidney prepared for its increased task.

FIG. 2.

The cystoscope showing both ureteric catheters introduced and deflected. The lens carrier which acts as an obturator to the tunnel is slightly withdrawn, showing how it can be removed at will, and replaced by the special irrigation tap, A.

It is the duty of the clinician to make use of every gramme of kidney, so that internal medication—diuretics and urinary antiseptics such as cystopurin—should hold a more prominent place in urinary surgery. Sir John Bland-Sutton once remarked to me that "some individuals get on in the world with very little brains and some without any, but a man requires at least an ounce of kidney to live." This remark tersely puts forward the whole basis of renal surgery, for though one-third, or even less, of one kidney can adequately carry on renal excretion, nevertheless the correct removal of a kidney needs the careful consideration and mature judgment of a consummate scientific surgeon who leaves no risks to the patient.

Lastly, you may desire to know whether, under any circumstances, I would recommend nephrectomy when a cystoscopic examination reveals an associated tuberculous lesion in the bladder. I am confident enough of the result of my personal experience to reply in the affirmative. The procedure depends upon the following sequence—a vesical tuberculous lesion does not contraindicate an otherwise desirable unilateral nephrectomy, inasmuch as a constant and increasing focus of infection is removed and the patient is relieved of toxic products, whereas the unmolested vesical focus is accessible to (*a*) the antiseptic action of cystopurin and its products, and (*b*) the topical application of radium or other substances through the tunnelled cystoscope, or, if necessary, through a temporary suprapubic cystostomy. Moreover, I am convinced that such a determination is oftentimes justifiable when, after a judicious administration of urinary antiseptics, and the application of radium in the manner employed by myself, there is satisfactory evidence of the healing of the vesical lesion.

ON A FATAL ILLNESS IN CHILDREN ASSOCIATED WITH ACUTE INTERSTITIAL PAROTITIS.

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AT a time like the present, when not only morbid anatomy but the methods of bacteriology, cytology, histology, and pathological chemistry are at the service of the pathologist, many a case is unravelled in the post-mortem room that of necessity remained obscure before these auxiliary sciences had reached their present degree of development. In spite of improvement in technique, however, a proportion of fatal cases still remain unsolved, and perhaps chief among them are those instances of infants and young children who die after a short illness, whose bodies reveal no gross lesion and whose blood and organs show no definite bacterial infection.

The basis of this communication is the histological observation of an unusual lesion—parotitis—in a series of four such cases under observation in the post-mortem room at St. Bartholomew's Hospital during the past few months. The significance of this lesion in relation to other features of the particular disease from which these patients had suffered will be discussed later. All of the patients in question were children. All had died after a short illness in which the symptoms pointed to meningo-encephalitis. Post mortem, meningeal congestion was found in all the cases, and in two of them there was flattening of the convolutions and other evidence of increased intracranial pressure. In all alike no pus was present in the meninges. There was no evidence of tubercle in the meninges, brain, or elsewhere. The cerebro-spinal fluid was clear and contained an excess of lymphocytes, but no visible bacteria. Sections of the cerebral cortex and of the cord failed on microscopic examination to yield histological evidence sufficient to justify a diagnosis of poliomyelitis.

As regards the rest of the body, the lymphatic glands both in the neck and mesentery were swollen. In two cases the lymphoid tissue in the small intestine was more prominent than usual, this change being most marked in Peyer's patches in one case, and in the solitary follicles in the other. In two of the cases petechial hæmorrhages were seen; in the first in the parietal pleura and visceral pericardium, and in the second on the under surface of the liver and beneath the capsule of the kidneys.

In all the children both heart's blood and cerebro-spinal fluid failed to show growth on agar, and their illness would have remained a mystery had it not been for the following observation. Although the salivary glands were not obviously enlarged and had given rise to no symptoms, they were found in all the four children to show on histological examination foci of acute inflammation—chiefly interstitial in distribution.

I am greatly indebted to Dr. James Calvert, Dr. H. Morley Fletcher, and Dr. J. H. Drysdale for permission to publish these cases which were under their care, and I wish also to record my thanks to their house physicians, Mr. E E. Chipp, Mr. G. Stanger, and Mr. H. G. Shore for their clinical notes on them.

CASE 1.—The patient, a male aged 2 years and 10 months, was admitted to hospital on May 13th, 1913, at 9 P.M., under the care of Dr. Morley Fletcher, suffering from fits.

History of present condition.—Well on May 12th, and went to play in the parks with his elder brother and sisters. Brought home at 8 P.M. asleep; put to bed and slept well. Seemed merely tired out. On May 13th he got up and was going out again, but suddenly he felt "queer," wanted to sleep, and slept nearly all day. Had very little breakfast. Vomited once in the morning. Asked for water repeatedly. Had diarrhœa on and off during the day; motions very offensive. He may have had pain in the stomach, but it is doubtful. No headache or sore-throat complained of. No coryza, no cough. No rash. About 6 P.M. he was awake and asked for more water, soon afterwards he became unconscious and remained so until brought to hospital. His mother came home at 8 P.M. and found him in this condition: "All his limbs became stiff, his neck was stiff, and he groaned now and then." She brought him up to hospital.

Family history.—Three sisters, aged 18, 16, and 11; one brother aged 14. The two eldest girls had chorea and are now nearly well, otherwise they are a fairly healthy family. Parents alive and well. No recent history obtained of scarlet fever, measles, mumps, or any infectious

illness either in the house or near. Three years ago three children had scarlet fever and one died. All the children except the patient had rickets.

Past history.—Natural birth; healthy baby; always lively, strong, and well. During the first two or three months of life he vomited occasionally. He had measles at Christmas, 1912, and suffered occasionally from coughs and colds. His teeth began to appear when 9 months old. He walked at 12 months, and talked at 15 months. He was very intelligent and had a good memory.

Condition on admission.—Admitted 9 P.M. Very pale, drowsy, and semi-conscious. All limbs stiff and perfectly rigid; head also rigid. Occasionally the limbs relaxed a little, but the child did not recover consciousness. Eyes fixed, not to one side; now and then they moved. No reaction to light or accommodation. Pulse very rapid (rate uncountable) and feeble. Temperature 102° F. Discs: Normal. Ears: Normal, no discharge. Tongue and fauces: Not seen, as the teeth were clenched almost continuously. A spatula put between teeth was firmly clenched. The jaws remained fixed almost continuously till death, only relaxing now and then. The head was retracted and getting more so. Very stiff. Thorax: Natural. Abdomen: Natural; reflexes not definitely obtained. Legs: Knee-jerks not obtained; plantar reflex uncertain. Legs very rigid, now and then relaxing. Kernig's sign present. The condition of the urine was natural. The fits followed each other very frequently, and were almost continuous all night. Chloroform was given and it stopped the fits, but only for a short time, and as soon as it was withheld, the fits came on again. Bromides had no effect, nor did a mustard bath. The patient did not improve at all, but began to twitch all down the right side. Pupils very dilated. The bowels were opened by an enema, and some rather offensive matter was voided. No vomiting occurred. The temperature was 102·8° at midnight, and 103·4° at 3 A.M. The fits got gradually more violent, and at 4 A.M., shortly after a fit, the breathing suddenly became worse and the child died. The total duration of illness, therefore, was under 24 hours.

The following is an abridgment of the post-mortem note relating to Case 1:—

Morbid anatomy.—Nothing definite found. The body was that of a well-nourished child. As regards the brain, the arachnoid and pia mater were a little injected over the vertex, but there was nothing otherwise abnormal in the appearance of the brain and spinal cord. Pieces of both, however, were reserved for microscopic examination. The lungs were very engorged, with some hæmorrhages into the alveoli (fresh section). The rest of the body appeared normal except that a few of the Peyer's patches were a little injected, as also was the mucous membrane of the colon. The lymphatic glands both in the neck and mesentery were swollen, but there was no evidence of tubercle.

Cytology.—The cerebro-spinal fluid removed from the subarachnoid space by pipette was clear. Films of it showed a majority of lymphocytes and a minority of endothelial cells.

Bacteriology.—The heart's blood, as also the cerebro-spinal fluid, yielded no visible bacteria either in films or in agar cultures.

Histology.—At the time of the post-mortem examination a small piece of the precentral lobe on one side and also of the cord were examined microscopically by boiling them in 10 per cent. formalin for several minutes—until they became hard enough—and then cutting sections with the freezing microtome. This method has been found of service for rapidly identifying cases of acute poliomyelitis. In the present case neither the cortex nor the cord showed the infiltrative lesions so characteristic of acute poliomyelitis. The only changes observed, which were confirmed subsequently by permanent sections, were as follows. Here and there the pia mater was speckled with lymphocytes, but the degree of this was comparatively slight—less than is seen, for instance, in tuberculous meningitis. The blood-vessels both in the meninges and in the substance of the brain and cord were engorged. The perivascular lymph spaces, however, were free of cells, and no foci of lymphocytes were seen either in the cerebral cortex or in the grey matter of the cord. In both situations, however, the neuroglia cells appeared to be increased in number, and at places these neuroglia cells were actually impinging upon a pyramidal cell or an anterior horn cell as the case might be. No definite changes were made out in the nerve cells of the piece of cerebral cortex examined, but some of the anterior horn cells in the cord showed both chromatolysis and also neuronolysis. When the salivary glands were examined it was found that both in the parotids and also in the submaxillaries here and there around the interlobular ducts and blood-vessels were foci consisting of an inflammatory exudate comprised chiefly of lymphocytes. The glandular tissue appeared to have escaped, and the lymphocytic foci were mostly limited to the lymphatic spaces around the ducts and accompanying blood-vessels. (Fig. 1.)

CASE 2.—The patient, a female aged 2 years, was admitted under the care of Dr. Drysdale on May 16th, 1913, her mother complaining that the child suffered from twitching and listlessness.

History of present condition.—The child was well until May 15th (the day before admission to the surgery ward). She was on that day playing as usual, but at 6 P.M. she became pale and her facial expression changed. She had a glaring, frightened look, took no notice of her surroundings, and only wanted to be left quiet and alone. Her mother said she was "feverish," but her temperature was not taken. She had no convulsion, but had slight diarrhœa, and she vomited her tea. She was given two drachms of castor oil. On the morning of the 16th her eyes were sunken and she appeared not to see. She would not take food. She had no convulsions and there was no vomiting, but she became restless and twitched her left arm and hand. She was forthwith brought to hospital and was admitted.

Past history.—Born in Elizabeth ward at full term. Her illnesses had been measles, whooping-cough, and colds. She had not had scarlet fever.

Family history.—Youngest but one of six. One (female, aged 10) had a tuberculous hip. The rest were well. Mother and father alive and well. A brother and a sister of the father had died from phthisis.

Condition on admission.—A well-nourished child. Lips somewhat cyanosed. Temperature 102·4° F.; pulse 160; respirations 84. Eyes wide open, staring, frightened looking. Pupils dilated, equal, reacting to light; no squint. No meningeal cry. The child did not cry easily. She would not keep still, and kept waving her arms about, particularly the left. Head somewhat retracted; neck stiff. No enlarged glands felt in the neck. Tongue furred, fauces natural, breath smelling of acetone. Chest: Well covered; respirations rapid, but sides moving equally. Heart: The apex beat was in the fourth space in the nipple line. The area of dulness to the right was limited by the right border of the sternum. The sounds were natural, but very frequent. The pulse was feeble, of low tension, very rapid, and at times too feeble and too rapid to count with certainty. Lungs: A few crepitations low down at the left base; otherwise nothing abnormal found. The abdomen moved naturally; no rigidity or tenderness present. No viscus felt. Legs: Knee-jerks present; no ankle clonus; plantar reflex flexor; Kernig's sign doubtful. No paralysis, but great restlessness. No sample of urine was obtained. On the 17th the child vomited and passed stools containing mucus and some greenish lumps like green peas; no blood. No more head retraction and no fits, but the patient

FIG. 1.

Section of left parotid of Case 1, showing an inflammatory focus around a duct.

was very restless. Hard to say that one side twitched more than the other. The signs at the left base were unaltered. The pulse was very feeble at times. Reflexes as before. It was doubtful whether the child could see. On the 18th the general condition was unaltered. The child was obviously very ill. She took no notice if left alone, but resented being touched. Apparently there was no photophobia. The eyes were generally open and staring. A blood count gave white blood corpuscles 11,400. Lumbar puncture was performed at 11.30 P.M. Cerebro-spinal fluid under increased pressure. 10 c.c. collected without difficulty. It was clear, with a slight haze of albumin on boiling. A marked reduction of Fehling's solution. Cells, 446 per c.mm. In films the cells were found to be mainly lymphocytes. No bacteria were seen. Cyanosis much increased. Respirations grouped. Pulse almost imperceptible. Oxygen was given, and strychnine and brandy were administered without effect. The child died, apparently from respiratory failure, at 11.45 P.M. Duration of illness three days.

The result of the post-mortem examination was as follows:—

Morbid Anatomy.—The body was that of a well-nourished child. The arachnoid and pia mater were congested to a considerable degree, but beyond this no abnormality was made out with regard to the appearance of the brain and cord. There was a little yellow mucopurulent material in the trachea. The lungs were slightly congested in places, but there was no macroscopic evidence of broncho-pneumonia. Fresh sections examined microscopically showed only some congestion and a small amount of bronchial catarrh. The lymphatic glands both in the neck and mesentery were swollen. There was no evidence of tubercle.

Cytology.—The cerebro-spinal fluid removed from the subarachnoid space showed in films a majority of lymphocytes and a minority of endothelial cells.

Bacteriology.—The heart's blood was sterile both in film and in culture, as also was the cerebro-spinal fluid.

Histology.—A piece of the cerebral cortex and of the cervical enlargement of the cord were examined. As in Case 1, none of the infiltrative lesions of poliomyelitis were present. The vessels were congested, and at one place a small hæmorrhage was found in the grey matter of the cord. The glia cells were slightly increased, but this feature was comparatively of a minor degree. The anterior horn cells in the cord showed some chromatolysis and neuronolysis. The salivary glands, however, were found microscopically to show the same change as had been observed in Case 1, but in the present case the extent of the exudate was far more pronounced. The inflammation was most marked in the left parotid and in the submaxillary of the opposite side. (Fig. 2.)

CASE 3.—The patient, a male aged 9 years, was admitted to hospital under the care of Dr. Morley Fletcher with the following history. He was in usual health until the morning of May 30th, 1913, when on getting up he complained of severe abdominal pain and frontal headache, and vomited. The bowels were opened soon after, but the motion was not seen. The abdominal pain became less intense. He stayed in bed all day and was very drowsy. The headache continued and got more severe. He vomited during the day, once after taking water. The bowels were not opened again. He shivered during the day and felt cold. About 4 P.M. the eyes seemed to have a vacant look and kept rolling about. The patient did not talk much and became rather delirious. He did not know where he was, and was very frightened at 7 P.M. In this condition he was brought to the hospital and was admitted at 8.5 P.M.

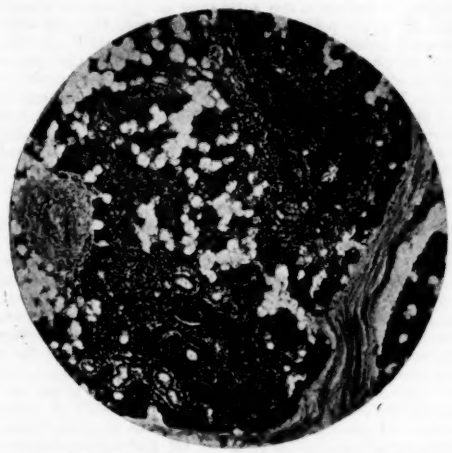
Past history.—The patient had attended in the surgery at the age of seven weeks until he was nine months old for constipation. He had not had sore-throat, but had had measles and pertussis at the age of two months. During the last two weeks he had been paler than usual. For one year he had had frequent headaches with vomiting first thing in the morning and drowsiness. The attacks would last a day as a rule, and were called by the mother "biliousness." There had been no ear discharge, except two months ago, when he had some wax in the right ear and some pain.

Condition on admission.—Very pale, with sunken features. Drowsy, and very difficult to rouse. Pulse not felt at first. Temperature 102° F.; pulse, 136; respirations, 36. Complained of headache. The eyes were natural and reacted to light; no nystagmus, no squint, movements natural. The discs were natural. The ears were natural, with no discharge or history of any. The tongue was thickly furred, the teeth were fair, and the fauces were slightly reddened. In the neck were swollen glands, which were palpable on the right side. Thorax: Nothing definite found in heart and lungs. The abdomen was natural, and the spleen was not felt. Abdominal reflex obtained. Legs: Kernig's sign was present. The knee-jerks were not obtained. The plantar reflexes were both extensor; no clonus. Urine: Specific gravity 1015; no albumin, blood, pus, or sugar; no deposit; contained acetone. A blood count revealed white blood corpuscles to the number of 28,000. The head was retracted occasionally and was stiff. All the limbs often became rigid. During the night the patient vomited on two occasions, but slept at intervals. He woke at 5 A.M. and became delirious, biting at the bedclothes, and got out of bed once. At 7 A.M. the drowsiness was increasing, the head was retracted, and the breathing was noisy. Lumbar puncture was done and one test-tubeful of clear fluid was obtained. The cerebro-spinal fluid was under increased pressure. On examination by Dr. A. E. Gow it was found to contain not more than 10 cells per c.mm. The albumin was 0·025 per cent. There was a trace of globulin. The sugar was normal. A blood count was also made, the results being as follows: Red blood corpuscles, 6,000,000; white blood corpuscles, 20,000; hæmoglobin, 70 per cent.; colour index, 0·6. Differential leucocyte count: Polymorphonuclears, 11,000; lymphocytes, 3000; large mononuclears, 700; eosinophiles, 100; basophiles, 200. It would appear, therefore, that there was a well-marked lymphocytosis. At 8 A.M. the child passed a loose green stool consisting chiefly of mucus. At about 10.30 A.M. the left side of the face and the left arm appeared to be paralysed. At about noon all the limbs became flaccid and all reflexes were lost. Later the vomiting returned and the temperature began to go up; at 3.15 P.M. it was 105·6° and at 4 P.M. 103·6°. Intraperitoneal saline was given, as rectal salines were not retained. Later there was incontinency. The patient became unconscious during the day, and he died at 5 P.M. on May 31st. Duration of illness under two days.

The result of the post-mortem examination was as follows:—

Morbid anatomy.—The body was that of a poorly nourished boy. The meninges showed no pus, no fibrinous exudate, and no tubercles. The vessels of the arachnoid and pia mater were congested. The convolutions were flattened, and there was a definite pressure cone at the medulla. On cutting into the brain no abscess or tumour was found. There was no hydrocephalic dilation of the ventricles. The cortical grey matter appeared to be injected. The cord showed nothing abnormal to the naked eye. The tongue was furred and the dorsum congested. The tonsils and fauces were congested, and in the posterior pharynx was a little mucopurulent secretion. The parietal pleura showed petechial hæmorrhages. The lungs were congested, but nothing more. The pericardial fluid was increased but clear. There were a few petechial hæmorrhages under the visceral pericardium. The heart muscle and endocardium were normal in appearance. The peritoneal cavity contained some clear fluid and a few pieces of lymph. The spleen, the kidneys, and the stomach appeared to be normal. The mucous membrane of the small intestine was engorged and the solitary follicles were enlarged. The large intestine was normal in appearance. There were some yellowish patches on the superior surface of the liver under the capsule. The mesenteric glands were swollen and the cervical glands also were enlarged. The salivary glands were dissected out and examined. Nothing abnormal about them could be made out with the naked eye. Their histological appearance, however, will be described later.

FIG. 2.



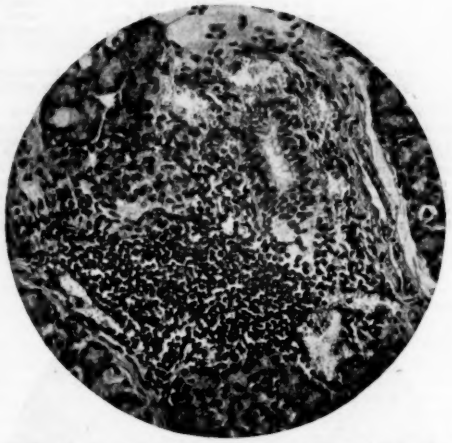
Section of right parotid of Case 2, under a low power, to show two large inflammatory foci.

Cytology.—The cerebro-spinal fluid showed in film preparation a majority of lymphocytes.

Bacteriology.—The heart's blood and cerebro-spinal fluid showed no bacteria either in film or culture. The mucopurulent secretion from the pharynx showed only streptococci and Gram-negative bacilli.

Histology.—Sections of a piece of the precentral lobe on one side and of the cervical cord showed none of the infiltrative lesions of poliomyelitis. The vessels were engorged and the glia cells perhaps slightly increased. As in the preceding cases no definite change was made out with regard to the cortex, but in the case of the cord the anterior horn cells showed chromatolysis and also had undergone some wasting. Sections of the salivary glands revealed, as in the preceding cases, an acute interstitial inflammation, the cells of the exudate being, as in the other cases, lymphocytes. The degree of inflammation is less marked in this than in the other cases. (Fig. 3.)

FIG. 3.



Section of submaxillary gland of Case 3, showing an inflammatory focus around the blood-vessels at the side of a duct.

CASE 4.—A schoolboy, aged 5 years, was admitted under the care of Dr. Calvert on June 15th, 1913, with the following history. He was quite well on the morning of Monday, June 9th, and went to school. At 3 P.M. he was sick in school, and after that he was sick on and off until Tuesday evening, when with his mother he walked to the medical attendant's and got some medicine which stopped his sickness. He seemed drowsy from the beginning of his illness, but did not complain of headache. On Sunday, June 15th, early in the morning he seemed lost, tumbled in getting out of his bed, and also wetted the bed. There was no squinting. He was semi-conscious all day and was brought to hospital at 2 P.M. and was admitted. On admission he was unconscious and rigid and occasionally his arms and legs twitched. Temperature, 99·8° F.; pulse, 88; respirations, 24. The eyes were wide open. Double Babinski reflex present; knee-jerks present; no abdominal reflex obtained. At 5 P.M. the child had a fit, and at 6.15, the muscles being rigid, chloroform was given to relax them and lumbar puncture was performed. The cerebro-spinal fluid was clear and the cells present numbered 6000 per c.mm. A differential count showed 100 lymphocytes to 15 polymorphs. The albumin taken in an Aufrecht tube amounted to 0·45 per cent.—over 10 times the normal quantity. No bacteria were seen in films of the cerebro-spinal fluid and cultures from it remained sterile. Shortly after examination of the cerebro-spinal fluid the child's knee-jerks disappeared. He still had a double Babinski reflex, the abdominal reflex was again absent, and the eyes still looked upwards and to the right. On examination with the ophthalmoscope nothing abnormal was found.

Past history.—The patient had had measles and varicella two and a half years ago.

Family history.—There was no history of tuberculosis.

During the night the child slept quietly until 4.30 A.M. when he awoke and began rolling his eyes and also had slight twitching round the mouth. At times he was flushed, and then he became very pale. The head was a bit retracted. A loose green stool was obtained in response to an enema. On the 16th the child was quiet and still all day, with slight movements of the limbs now and then and occasional attacks of rigidity. He passed loose greenish stools. In the evening he was transferred to another ward, on admission to which the note was as follows:—"Pulse 84, R. 24, T. 99·6°. The patient is unconscious, the pupils dilated. Some cervical rigidity. No muscular tremor. Some facial spasm. Kernig's sign present. Respiratory system: Respirations 28; no cough; lungs appear normal. Circulatory system: Heart natural; pulse 104, weak in force. Alimentary system: Stomach and liver natural. Spleen not felt." On the 20th the child lay unconscious with his eyes sunken and shut. On opening the lids the eyes were found to be looking upwards and to the right. A careful examination of the salivary glands showed some enlargement of one parotid and of the opposite submaxillary, but this enlargement was not very well marked and it was disputed by another observer who saw the case at the same time and thought it to be one of tuberculous meningitis. The

patient remained in the same unconscious condition until the next morning at 1 o'clock, when the fits came on again and continued until 7.15 A.M., when he died. The total duration of the illness therefore was 12 days in this case.

The post-mortem examination in this case yielded the following results:—

Morbid anatomy.—The body was that of a well-nourished boy. The meninges showed no pus and no tubercles, but at the base of the brain there were some adhesions. The meningeal vessels were congested. The convolutions were flattened on both sides, and there was a well-marked pressure cone at the medulla. The lateral ventricles were dilated with clear fluid which burst through the brain substance during removal of the brain from the skull. As regards the rest of the body, the cervical and mesenteric lymphatic glands were swollen, but no certain evidence of tubercle could be found anywhere in the body. Some small petechial hæmorrhages were seen on the under surface of the liver and under the capsules of the kidneys. There were some yellowish patches on the upper surface of the liver under the capsule. The salivary glands were carefully dissected out. They were congested, but no suppurative focus could be made out. Both parotids on section and slight compression extruded a little mucopurulent secretion from their ducts.

Cytology.—The cerebro-spinal fluid was clear. The cells present were chiefly lymphocytes, but a fair number of endothelial cells were also seen.

Bacteriology.—Films and cultures from the heart's blood and meninges showed no bacteria. Films of mucopurulent secretion from the parotid showed no bacteria, and cultures gave three colonies of a coliform bacillus and two colonies of a white staphylococcus. Cultures from the tonsil gave streptococcus and staphylococcus. Cultures from an enlarged gland gave no growth.

Histology.—The section both of the cerebral cortex and of the cord showed far more accumulation of lymphocytes in the subarachnoid space than the preceding cases. The changes observed in the grey

FIG. 4.

Fresh section of the left parotid of Case 4, to show the more diffuse distribution of the inflammatory exudate in this case.

matter, however, were comparatively small. The vessels were congested. Some increase in the glia cells appeared to have taken place and the anterior horn cells at places showed loss of substance and staining power. As in the preceding cases, the infiltrative lesions of poliomyelitis were not found either in the cortex or in the cord. There was, however, in this case an exception. In the case of a section which had been taken through the commencement of the medulla, one blood-vessel just below the floor of the fourth ventricle showed a mantle of lymphocytes in its perivascular lymph space, and the grey matter in this region also showed some slight infiltration with lymphocytes. The salivary glands on histological examination were found to exhibit more advanced changes than any of the other cases. The inflammatory process was most marked in the left parotid, which had become so diffusely infiltrated as to resemble in places lymphoid tissue. After that, the right parotid showed most change. The left submaxillary gland had almost escaped change; but the right one showed some well-marked foci in the interstitial portions of the gland. (Fig. 4.)

Summary.

During May and June of the present year the four fatal cases just recorded of what appears to be undoubtedly one and the same disease have come to the post-mortem room at St. Bartholomew's Hospital. The patients were all children, and three of them were particularly well nourished. Their ages were 2 years, 2 years and 10 months, 5 years, and 9 years respectively. Three were boys and one was a girl. The duration of their illness had varied. In one case the child died within 24 hours of the onset, and clinically it was a case of "convulsions." The others died on the second, third, and twelfth day respectively. The illnesses from which these patients had suffered presented certain features of general similarity. In point of fact, as a result of the first two cases the last two had been suspected clinically of being instances of this disease.

Mental condition.—Three out of the four patients had drowsiness as a well-marked initial symptom. All developed coma. One had delirium.

The eyes.—In all the cases the eyes were sunken and fixed or staring, but not to one side; their axes were parallel—that is to say, there was no squint. In all the pupils were dilated. In none was any abnormality made out with regard to the discs.

Musculature.—All of the cases presented the symptom of muscular rigidity in some form or other. In two the head was definitely retracted, and all had some stiffness of the neck muscles. Kernig's sign was positive in three. Three of the patients had twitching and two had "fits" of more or less general muscular rigidity, in course of which they died.

Reflexes.—Babinski's sign was present in two cases, doubtful in one, and absent in one. Three of the patients lost their knee-jerks and the reflex from their abdominal muscles.

General symptoms.—The children had a marked pallor. All of the cases had some pyrexia, and all had a frequent and feeble pulse. All of them had a certain amount of vomiting and diarrhœa, the stools of three of them being of a greenish colour. The cerebro-spinal fluid was under increased pressure, more especially in Cases 3 and 4. On examination an increase was found in the cells, the number counted being 50, 446, and 6800 respectively per c.mm. in three of the cases. In all the cases the predominant cells in the cerebro-spinal fluid were lymphocytes.

As regards the blood, in Case 2 the leucocyte count was 11,400, and in Case 3 two blood counts gave 28,000 and 20,000 respectively. A differential count of the latter showed a well-marked lymphocytosis.

Post mortem.—The four cases were found to present similar lesions. The meninges and central nervous system were congested. In two of the cases there was evidence of marked increase in the intracranial pressure. No positive evidence of tubercle was found either in the central nervous system or elsewhere. The heart's blood and cerebro-spinal fluid showed no bacteria either in film or culture. Histologically the infiltrative lesions in the substance of the cord so characteristic of acute poliomyelitis were absent, the only changes observed being slight and variable infiltration of the pia with lymphocytes, some variable increase in the glia cells, and wasting and chromatolysis of some of the anterior horn cells. In one case only was any infiltration found, and that was in a section through the medulla of Case 4. No definite neuronophagia was seen in any of the cases. A point of much interest was the presence of foci of acute interstitial inflammation of the salivary glands of all the four cases. The degree of this varied, but it was most marked in one parotid and the opposite submaxillary in Cases 2 and 4. In Case 4 one of the parotids had become so infiltrated with lymphocytes as to appear microscopically in parts like lymphoid tissue. This was the child in whom the disease had lasted longest. In spite of this microscopical change there had been no obvious parotitis clinically, and a critical examination of the parotids of this case during life only revealed some slight enlargement. As a rule, the exudate of lymphocytes in the salivary glands was entirely focal and most marked in the lymph spaces around the blood-vessels and ducts—i.e., in the interlobular tissue—but in two of the patients the inflammatory process had proceeded at places to involve the parenchyma of the gland as well, and islets of glandular cells could be seen cut off and surrounded by the inflammatory exudate of small round cells. The further histological examination of material from these cases has so far yielded negative results. The investigation, however, is not yet complete.

Conclusion.

The facts being as above, the question arises, What is the nature of the virus of this disease? Acute interstitial parotitis is known to occur in three conditions: (1) Hydrophobia; (2) poliomyelitis; and (3) mumps.

The first of these three conditions may be excluded, as there was no history of a bite, the symptoms were not those of hydrophobia, and the infiltrative lesions of hydrophobia in the central nervous system were not found.

As regards poliomyelitis, it is known that acute interstitial inflammation occurs in the salivary glands in the course of it; and although the instances I have seen are less marked than in some of the present cases, the type of the lesion is similar in both conditions. Furthermore, recent experimental work claims to have shown that the virus of poliomyelitis may produce in the monkey degenerative lesions in the cord without infiltration. There are, however, two points that make me think that this disease is probably not poliomyelitis. First, there is the absence of paralysis of a group of muscles in the clinical history of the cases. Secondly, there is the absence of the microscopic lesions in the cord most characteristic of acute poliomyelitis—viz., infiltration of the grey matter, anterior horn cells, and vessel sheaths. During the past 18 months I have examined the cord of nine human cases of acute poliomyelitis histologically, and in every one of them these lesions were present and prominent. Their absence in the present series, therefore, in my view, tends to exclude poliomyelitis.

There arises a presumption that these children met their death as the result of the unusual action of the virus of mumps, and this is the view to which I incline. It is known, for instance, that cerebral complications, such as delirium, coma, convulsions, and so on, may occur occasionally during mumps, and a lymphocytic meningitis has also been observed. We have had an extensive outbreak of mumps this year, *and none of the four children mentioned in the present paper had previously had mumps.* If their illness was not due to the action of the virus of poliomyelitis or to that of mumps, there is a possibility that it was brought about by a virus as yet unidentified. For the present, judgment on this matter must be reserved.

Since the lesion—parotitis—was found in the first of these cases, control histological observations have been made of the salivary glands of a number of patients dying from other causes. Their ages ranged from 3 weeks to 71 years, and their deaths had been brought about by the following diseases: Marasmus, 2 cases; generalised miliary tuberculosis with tuberculous meningitis, 2 cases; streptococcal septicæmia, 3 cases; acute rheumatism and chorea, 1 case; bronchopneumonia, 1 case; gastric ulcer, 1 case; and general peritonitis, 1 case. In no instance was any marked change from the normal appearance made out, nor were any inflammatory foci seen in the salivary glands of these patients. The investigation is being continued.

The present communication will have achieved its object if it serves to call attention to a disease that is manifesting itself in some abundance both clinically and pathologically, and appears to form a distinct entity. It may be that this disease is a factor of considerable importance in the death-rate of children, more especially in that class of case in which the cause of death is at present returned under the expressive if somewhat vague heading of "convulsions." Whatever the exact nature of the virus may prove to be, the essential feature of this disease is an acute attack upon the neurons—neuronitis. There is well-marked hyperæmia of the grey matter, a proportion of the neurons rapidly undergo chromatolysis and wasting, and the glia cells about them increase. While infiltrative changes are absent from the central nervous system, they appear to be constantly present in the salivary glands in which the inflammatory exudate is chiefly interstitial in distribution.

AN ADDITIONAL INSPECTOR OF FACTORIES.—The Home Secretary is about to appoint an additional medical inspector of factories at a salary of £500 per annum, rising by annual increments of £20 to a maximum of £700. The appointment will be subject to the usual Civil Service conditions as to retirement, pension, &c. The medical inspector will be required to undertake medical inspection, under the direction of the senior medical inspector, in factories, workshops, and other places under the Factory Acts in any part of the United Kingdom, and to reside in such place as the Home Secretary may from time to time direct. Candidates should be between the ages of 25 and 40, and applications should be addressed not later than August 15th to the private secretary, Home Office, Whitehall, S.W., from whom forms can be obtained. Recommendations or testimonials will only be considered if based on personal knowledge of the candidates, and candidates are advised not to seek political or social influence, which will prejudice rather than assist the candidature.

THE PRODUCTION OF ULCER OF THE STOMACH IN THE RAT.

BY CHARLES SINGER, M.D. OXON.

(*From the Institut für Krebsforschung, Heidelberg.*)

Introductory.—Very recently Gundermann, of Giessen, has produced both gastric and duodenal ulceration in dogs by ligaturing the left branch of the portal vein. In England Bolton has demonstrated the existence of a gastrotoxic serum capable of producing a gastric ulcer when injected into the stomach wall or even into the peritoneal cavity of cats. Payr has achieved similar results by means of emboli artificially produced in the gastric vessels. Several investigators, Koboyashi and Marchetti among them, have shown that more or less radical operations on the nervous system may result in ulceration of the gastric mucous membrane. It is evident, however, that these results depend on processes which are not often encountered in the life-history of the human subjects of gastric ulcer. The ulcer produced is, moreover, usually acute or subacute, rather than of that chronic type the explanation of which presents so many difficulties in human pathology. The present work is the result of attempts to produce gastric ulcers on more normal physiological or rather pathological lines.

It has now for some time been recognised that there is probably an infective element among the etiological factors of gastric and duodenal ulcer. The relationship of oral sepsis to gastric disease is one of the commonplaces of medicine. Of late years also a connexion between appendicitis on the one hand and gastric and duodenal ulcer on the other hand has been demonstrated by the Mayos, by Moynihan, and by the present writer among others. Gastric ulcer has thus been brought within the range of those conditions indefinitely classed as "alimentary toxæmias." Since, moreover, it has been claimed by several writers that gastric ulceration is occasionally produced by the intravascular inoculation of organisms as well as of toxins and antitoxins, it seemed worth while to endeavour to produce the disease as an incident in the natural production of toxic conditions.

Method of experiment.—The line of experiment that ultimately proved successful was very simple. It had been noticed that ill-kept rats, and especially those that had been too closely housed in earthenware jars, were liable to present alterations, thickenings and ulcers of the gastric wall. The fact that in the stomach of such animals fæces were occasionally found suggested the methods adopted in this investigation.

Rats were placed in circular earthenware jars, ten animals in each jar. At the bottom of the jars were placed wood shavings contaminated by other rats, and throughout the experiment the shavings remained unchanged. The animals were fed only on wet bread. It was always found that in the course of a few hours the bread became contaminated with fæcal matter, and in a few days was also overgrown with moulds. The majority of animals dealt with in this way were found to present more or less marked gastric changes of ulcerous nature when the treatment had been continued for a fortnight or longer.

The technique adopted was as follows. The stomach of the freshly killed animal was filled with Zenker's fluid from a tube passed through the pylorus. When the stomach was quite full the œsophagus and duodenum were tied and the whole organ removed and dropped into fixative. The stomach was opened and examined after an interval of 24 hours.

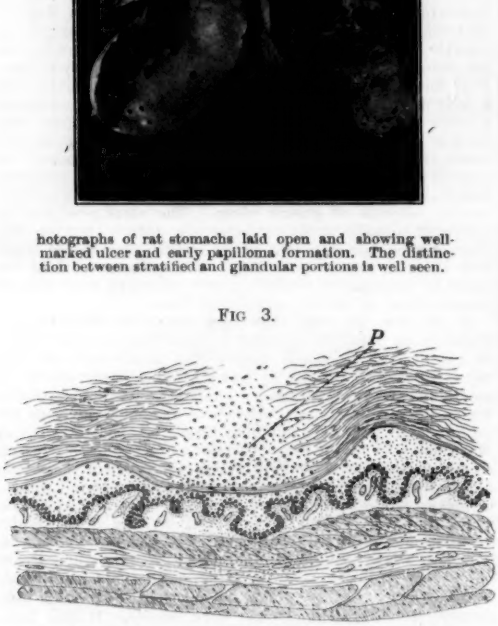
In 80 rats thus treated for 10 days or more ulcers were found in 57 cases, or 71 per cent., while in 200 well-kept rats that were used as controls ulcers were encountered in only 16 cases, or 8 per cent. Experiments were also made in feeding well-kept rats on bread mixed with stale fæces and on bread that had become mouldy, but negative results were obtained. In the case, however, of 14 well-kept rats fed once on a mixture of bread and minced intestines of other rats ulcers were found after four weeks in 10 cases, or 72 per cent.

The actual causative factor remains in doubt. The conditions of experiment suggest an infective agent of the nature of an organism normally present in some other part of the digestive tract.

FIG. 1. FIG. 2.

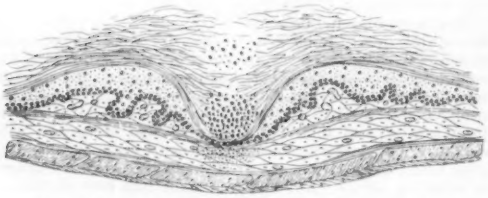
hotographs of rat stomachs laid open and showing well-marked ulcer and early papilloma formation. The distinction between stratified and glandular portions is well seen.

FIG 3.



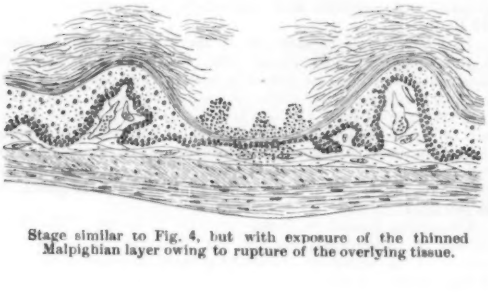
Early stage in ulcer formation, showing simple infiltration of corneous layer by polymorphonuclear cells (P).

FIG. 4



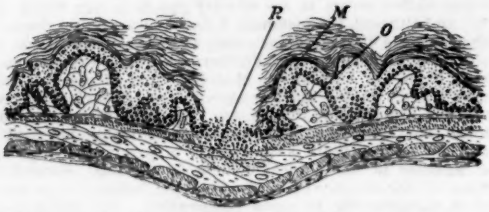
Stage showing thinning of Malpighian layer with round-cell infiltration of the underlying connective tissue.

FIG. 5.



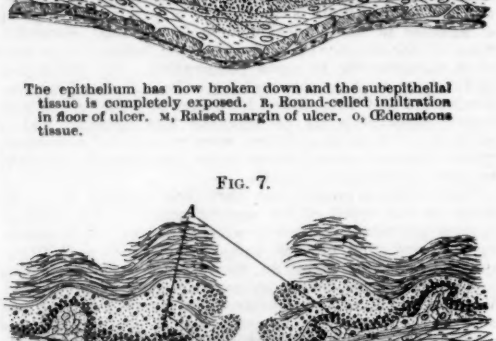
Stage similar to Fig. 4, but with exposure of the thinned Malpighian layer owing to rupture of the overlying tissue.

FIG. 6.



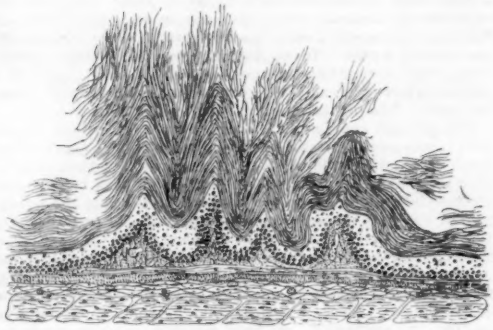
The epithelium has now broken down and the subepithelial tissue is completely exposed. R, Round-celled infiltration in floor of ulcer. M, Raised margin of ulcer. O, Œdematous tissue.

FIG. 7.



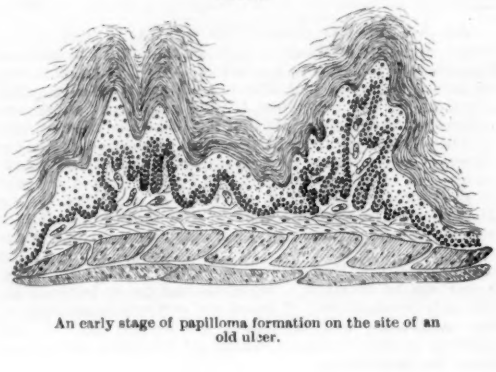
The healing ulcer showing the new epithelium growing in from a considerable distance beyond the actual edge of the ulcer. A, Area of epithelial proliferation.

FIG. 8.



Healed ulcer with epithelial overgrowth.

FIG. 9.



An early stage of papilloma formation on the site of an old ulcer.

Morphology and Evolution of the Ulcers.

(*a*) *Structure of the rat's stomach.*—The stomach of the rat consists of two parts—a fundal portion, or "Vormagen," lined by stratified epithelium, and a pyloric portion, containing the glandular elements. (See Figs. 1 and 2.) Ulcers were found in both sections, but much more commonly in the fundal portion, and it is only with these fundal ulcers that the present communication is concerned. As the human stomach is lined throughout by glandular epithelium, the experimental results differ in this sense from the usual clinical findings.

(*b*) *Position and number of the ulcers.*—Ulcers can be either single or multiple. (Figs. 1 and 2.) When multiple they tend to occur in groups. Cases have been encountered in which the ulcers were so numerous that they occupied practically the whole of the fundal position of the stomach. The most common position for an ulcer in the rat's stomach is on the posterior wall, not far from the line dividing the stratified from the glandular epithelium, and close to the œsophageal opening. An almost equally frequent site is in the neighbourhood of the apex of the fundus.

(*c*) *Form of the ulcer.*—It would seem that an ulcer in the early stage is always circular. In this stage it has a clear-cut, punched-out appearance, with a central minute pit and raised margins. Larger and more irregular ulcers are frequently encountered. These appear invariably to be formed by the congregation of several smaller ulcers, and are usually surrounded by satellite ulcers.

The ulcers may heal and leave only a slight thickening, representing itself as an opacity in the gastric wall. In other cases the edges of the ulcer develop a heaped-up appearance, and this may pass into a papillomatous growth which may amount to a tumour. Such cases may be similar in appearance to the smaller papillomatous growth which Fibiger has recently pictured as an early stage in the formation of gastric cancer of the rat.[1] These papillomata are,

FIG. 10.

Papilloma in the stomach of a wild rat.

however, sharply separated from those of Fibiger by the absence of nematodes. The author has himself demonstrated nematodes in a similar papilloma found in the stomach of a wild rat. (Figs. 11 and 12.)

(*d*) *Evolution of the ulcer.*—A series of drawings of the lesions are here arranged in what appears to be their probable chronological order.

Stage 1. Infiltration.—The earliest stage which can with certainty be recognised as leading to the formation of an ulcer consists in an infiltration of the corneous layer by a swarm of polymorphonuclear cells. (Fig. 3.) Along with this process there always occurs another process, apparently of a protective nature, which consists of a proliferation downwards of epithelium in the form of an overgrowth of the Malpighian layer and the production of new papillæ. (Figs. 3, 4, and 5.) In some cases this thickening of the Malpighian layer may provide an adequate barrier to the more superficial inflammatory process. Among the group of cells infiltrating the corneous layer can frequently be demonstrated bacilli, cocci, yeasts, and a mycelium formation.

Stage 2. Ulcer formation.—If the protective process of epithelial proliferation is inadequate, the inflammatory

FIG. 11. FIG. 12.

FIG. 11.—Another papilloma in the stomach of a wild rat associated with a nematode worm. Sections of the worm can be seen buried in the epithelium.
FIG. 12.—A further enlarged section of the worm of Fig. 11.

reaction leads to thinning (Figs. 4 and 5) and ultimately to perforation (Fig. 6) of the epithelium and the formation of a true ulcer. At this stage the ulcer always becomes surrounded by a raised margin. The subepithelial tissue surrounding the ulcer becomes the site of a more or less marked œdema. (Fig. 6.) A striking degree of local eosinophilia is frequently encounted in the loose tissue thus formed. The tissue in the immediate neighbourhood of the exposed floor of the ulcer is the site of a round-celled infiltration.

Stage 3. Repair.—After a short time there is a proliferation of the epithelium well beyond the exposed edge of the ulcer. The newly formed epithelium extends across the floor of the ulcer and is reinforced by an extensive downgrowth of papillæ around the edge of the ulcer. (Fig. 7.)

Stage 4. Scar or papilloma formation.—This process of papilla formation may gradually subside and leave only a slight opacity or scar which consists of a thickening of the epithelium and of the underlying fibrous tissue. (Fig. 8.) Frequently, however, if the animal continues to be exposed to unfavourable conditions the overgrowth leads to true papillomatous formation. (Figs. 9 and 10.) Cases have been encountered in which the greater part of the fundus was the site of such papillomatous growth, and in these cases concentric epithelial "perles" are frequently seen in the papillomatous tissue. Similar papillomata have also been found occurring spontaneously in the stomachs of wild rats. (Figs. 10 and 11.)

[1] Professor J. Fibiger: Untersuchungen über eine Nematode und deren Fähigkeit, papillomatöse und carcinomatöse Geschwulstbildungen im Magen der Ratte hervorzurufen, Zeitschrift für Krebsforschung, Band xiii., 1913, p. 217.

FOREIGN UNIVERSITY INTELLIGENCE.

Basle: Dr. J. Kollmann, Professor of Anatomy, is retiring from the charge of the Anatomical Institute of the University, but proposes to continue to lecture on Anthropology. Dr. Eugen Bernoulli has been recognised as *privat-docent* of Pharmacology.—*Berlin:* Dr. Georg Wolfsohn has been awarded the Alvarenga Prize, an additional prize being allotted to Dr. Hans Reiter, of Königsberg. The subject was vaccine therapeutics. Dr. J. Ziemann, surgeon-general, has been recognised as *privat-docent* of Tropical Medicine.—*Cologne Academy of Practical Medicine:* Dr. Paul Frangenheim, surgeon to the St. Jacob's Hospital, Leipsic, has been appointed Professor of Surgery and Director of the Surgical Side of the Bürger Hospital, in succession to Dr. Bardenheuer.—*Erlangen:* Dr. Ernst Weinland, assistant in the Physiological Institute of the University of Munich, has been offered the chair of Physiology, with the post of Director of the Physiological Institute, in succession to Dr. Isodor Rosenthal, who is retiring.—*Freiburg:* Dr. Edwin Goldmann, Extraordinary Professor of Surgery, has been promoted to Honorary Professor. Dr. Franz Knoop, Extraordinary Professor of Physiological Chemistry, who was offered a position in the Rockefeller Institute of New York, has decided to remain in Freiburg.—*Tübingen:* Dr. Wilhelm Weitz has been recognised as *privat-docent* of Medicine.—*Vienna:* Dr. Rudolf Poech, *privat-docent* of Anthropology and Ethnography, has been promoted to Extraordinary Professor.

ARSENIC CANCER:

A Case under the Care of

W. HARWOOD NUTT, M.D., CH.B. EDIN.,

MEDICAL OFFICER TO THE SHEFFIELD UNION WORKHOUSE; HONORARY MEDICAL OFFICER TO THE X RAY AND ELECTRICAL DEPARTMENT OF THE SHEFFIELD ROYAL HOSPITAL;

A Pathological Report on the Parts Removed,

BY J. M. BEATTIE, M.A. N.Z., M.D., C.M. EDIN.,

PROFESSOR OF BACTERIOLOGY IN THE UNIVERSITY OF LIVERPOOL; HONORARY CONSULTING BACTERIOLOGIST TO THE ROYAL SOUTHERN HOSPITAL, LIVERPOOL;

Together with Summaries of 30 other Collected Cases and Remarks,[1]

BY R. J. PYE-SMITH, CH.M. SHEFF., F.R.C.S. ENG.,

CONSULTING SURGEON TO THE SHEFFIELD ROYAL HOSPITAL AND TO THE MONTAGU HOSPITAL, MEXBOROUGH; EMERITUS PROFESSOR OF SURGERY IN THE UNIVERSITY OF SHEFFIELD.

(*Concluded from p. 216.*)

IN the preceding part the summaries of 30 collected cases of arsenic cancer were given. In this series there is a remarkable similarity in many of their features. In nearly all of them arsenic had been taken for periods extending over years, and in nearly all hyperkeratosis was present, especially in the palms and soles, and of a type often produced by arsenic. In fully half the cases the cancerous lesions were multiple, a fact strongly suggestive of the presence of some general and unusual predisposing or exciting cause. In a fourth of the cases the age of the patients did not exceed 35 years, again suggesting some special cause.[11] In several of the cases the use of arsenic had been discontinued for many years before the cancerous changes set in, pointing to its being an early or remote rather than a late or final cause. In most of the cases the epitheliomatous process (which always began in the skin) appears to have started in a patch of keratosis, in a few cases in apparently (though probably not really) normal skin, seldom, if ever, in a patch of psoriasis, showing that the last-named disease, though present in two-thirds of the cases, was probably not a causative factor. In only one-fifth of the cases is pigmentation mentioned. Lesions were situated on the upper extremity (usually the hand) in nearly two-thirds of the cases, on the lower extremity (especially the foot) in a fourth of the cases; in one instance only was the face affected, the rest of the cases being nearly equally divided between the trunk with the neck and the external genital organs with the perineum. The fact of the hands and feet being so often affected suggests that either trauma or the keratosis, so generally present there, was a determining factor in the localisation of the lesions. In the principal case recorded the wearing of a wedding ring appeared to have fixed the site of the primary ulcer. Although microscopical examination by competent pathologists was not always conclusive in the early stages of the cancerous process, and although several of the cases were at one stage suspected to be syphilitic, yet sooner or later, in almost every case, the microscope has confirmed the clinical diagnosis of epithelioma. Excision of the cancerous lesion, or amputation of the affected part of the limb, was practised in two-thirds of the cases. In many instances local recurrence followed these operations, and in about a fourth of all cases metastasis ultimately took place to glands and internal organs. Death from the disease had already occurred in half the cases when they were recorded. Three times as many men were affected as women.

Epithelial cancer appears to attack, as a rule, tissues which have been exposed for prolonged periods to frequently repeated slight injury, and have in consequence suffered a depression of vitality, or become more or less definitely inflamed.[13] It is, however, rare for such predisposing conditions to be effectual in breaking down the natural cancer-resistance of the tissues, unless these are comparatively senile. So that the somewhat early age of many of the subjects of arsenic cancer seems, not unreasonably, to suggest that the prolonged presence of arsenic in the skin may have a deleterious influence on its resistance to cancer, comparable with that exerted by senescence.

The injuries just referred to are familiar enough in several forms, such as mechanical (as a pipe in relation to cancer of the lips in smokers), chemical (as pitch in relation to cancer of the skin in briquette makers), actinic (as X rays when over-applied to the skin),[13] atmospheric (as sun, wind, and salt spray in the skin cancer of sailors) (63).

In some other forms the nature of the injury is more uncertain, as that inflicted by soot in the development of chimney-sweep's cancer of the scrotum, that caused by phimosis in the production of cancer of the penis, that produced by cutaneous horns when ending in cancer,[14] that done by chronic lupus or by Paget's disease of the nipple, that due to the scars of burns, as in cases of kangri cancer, occurring in Kashmir, where charcoal braziers are worn over the skin of the abdomen,[15] or that present in Kaposi's disease (xerodermia pigmentosa) in its final cancerous stage. In other cases, again, the irregular growth incident to advanced age seems to take the place of injury to the skin.

In certain instances of some of these kinds of skin cancer a local condition of keratosis, often accompanied by desquamation and pigmentation, and followed by fissure and ulceration or by ulceration without fissure, commonly precedes the onset of malignancy. The same is true of nearly all the cases of arsenic cancer. It looks as if arsenic induces keratosis of the skin (as is now universally admitted),[16] the keratosis mechanically inducing fissures, which readily become infected with bacteria and then ulcerate, the ulcers finally becoming cancerous.[17]

The late Sir Jonathan Hutchinson repeatedly suggested that arsenic may possibly be a causative factor in forms of cancer in which it has not hitherto been suspected; and so widely is this metal distributed in nature as to lend countenance to the suggestion, for its occasional ingestion through food or water must be possible to nearly all races of men and to many animals. Arsenic is present in many soils and, in traces, in many natural mineral waters. It has occasionally been found in certain vegetable and animal tissues, though probably it is not a normal constituent of either (66). So many drugs are liable to contain arsenic as an impurity that "it is not easy to say that any manufactured drug will be free from it" (71), and that over 100 official substances and preparations are included in the list for which a maximum contamination is to be fixed in the forthcoming Pharmacopœia. This list includes salts of ammonia, bismuth, iron, lime, magnesia, potash and soda, as well as citric and tartaric acids, glycerine, and glucose (72).

The commonest source of this contamination is to be found in commercial sulphuric acid, which is manufactured from arseniferous pyrites. It was the use of this acid in the manufacture of invert sugar for brewing that was responsible for the epidemic of arsenical poisoning by beer at Manchester

[11] But in a valuable paper (61) entitled "The Study of the Etiology of Cancer, based on Clinical Statistics," Dr. Isaac Levin, of New York, after analysing 4000 cases of cancer, reported from the hospitals in New York, Brooklyn, Baltimore, and Philadelphia, found that, although in this series cancer generally occurred in persons under 35 years of age in the proportion of only about 12·6 per cent. of all cases, yet cancer of the extremities, of which there were 206 cases, occurred in such persons in 47 per cent., or nearly as often in those under as in those over the age of 35. On the other hand, Mr. G. Lenthal Cheatle, C.B., collected 56 cases of cancer of the hand, (34) and states (in a private letter) that the ages of the patients were all over 50.

[13] To use the words of Mr. Victor Bonney, "Epithelial cancer is never initiated on a normal surface, but is led up to by a series of inflammatory changes in the epithelial and subepithelial connective tissues" (62).

[13] See Multiple Carcinomata following Chronic X Ray Dermatitis, by Dr. Charles Allen Porter, Boston, Mass., with Pathological Report by Dr. Charles J. White, Harvard University (59).

[14] Dr. Hermann Lebert (64) collected the published cases of cutaneous horns (109 in number); in 13 of them (nearly 12 per cent.) epithelioma developed. See also Cornu Cutaneum of the Human Scalp, by Herman L. Niertert, M.D., and Edmund A. Babler, M.D. (58), and Cutaneous Horns, by Charles K. Roys, M.D. (60).

[15] See the account given by Dr. Theodore Maxwell in an article on Epithelioma in Kashmir (22), and a similar account by Dr. E. F. Neve (34*a*).

[16] Romberg (65) appears to have been the first (1851) to recognise that keratosis could be induced by arsenic. Thomas Hunt (20) had previously (1847) attributed pigmentation, in regions protected by the clothing, to the same cause.

[17] Irregularity in the epidermic overgrowth which occurs in keratosis may perhaps (?) lead in some cases to the segregation of small portions of epithelium, and so originate epithelioma before ulceration commences. See The Causation of Cancer, by L. B. Wilson, M.D. (80). So long ago as 1880 Sir Frederic Eve cited cases which "indicated that the border line between the so-called hypertrophies of epithelium (callosities, warts, &c.) and epithelioma was of the slightest description, and that a continuance of the causes which gave rise to the former might lead to the latter" (25).

in 1900. Arsenic is also present in the fumes from burning gas-coke, and thus in the process of drying is occasionally conveyed to malt, hops, chicory, and tobacco. The epidemic at Halifax in 1902 was shown to be due to beer made from malt contaminated in this way. Many wall-papers (not only those of green colour) contain large quantities of arsenic, as do also some of the aniline dyes used in confectionery, and oxide of iron which is sometimesused to adulterate chocolate powder, anchovy sauce, &c. (69).

Coal contains arsenicated iron pyrites in various proportions, and soot from the burning of ordinary house-coal contains a large amount of arsenic,[18] whilst soot formed by the burning of wood is said to be free from it. This fact would appear, at first sight, to offer an explanation of the restriction of chimney-sweep's cancer of the scrotum to England, since in that country only was coal largely burnt during the last century, wood being much more commonly used in most parts of Europe. The late Sir Henry Butlin, however, became convinced, after investigating the question with great care, that it was not so much the difference in the character of the soot as the greater care in dress and cleanliness on the part of continental chimney-sweeps which accounted for the absence of this disease amongst them (28). But this view in no way invalidates the evidence that in England the habitual contact of soot does, in some way, induce cancer of the scrotum in chimney-sweeps. This evidence is largely clinical,[19] but it is confirmed by the mortality statistics of the Registrar-General, as analysed in the decennial supplements by the chief medical officer of the Registration Department. In the supplement to the Forty-fifth Annual Report (30 years ago) Dr. Ogle stated that, according to the mortality returns, "the liability of chimney-sweeps to malignant disease is about eight times as great as the average liability of all males," and in nearly half the cases the disease was situated in the region of sweep's cancer ("scrotum, penis, testes, and groin") (28). And in the supplement to the Sixty-fifth Annual Report Dr. J. F. W. Tatham says, in reference to cancer, "chimney-sweeps are still subject to the highest fatality from this disease, although among several other occupations—e.g., inn-servants in London, brewers, furriers, general labourers, and seamen—the mortality does not fall far short of that of chimney-sweeps" (70). Table IV. in Part II. of this Supplement shows that the fatality of cancer between the ages of 25 and 65 is two and a quarter times as great in chimney-sweeps as in males generally.[20] The proportion of cases affecting the sweep's cancer region ("scrotum, penis, testes, and groin")[21] had also fallen in the 20 years between the 45th and 65th Annual Reports from nearly half to just under a third of all cases.

Not only soot, but also tar and pitch, obtained by the fractional distillation of coal, contain arsenic, and workers in these substances, such as briquette makers (70), are subject to keratosis, melanosis, warts, ulceration, and epithelioma of the skin. The workmen employed in refining solid paraffin are subject to similar conditions of the skin.[22] There appears to be no evidence that paraffin is liable to be contaminated by arsenic, but these effects may be attributable to the tar and naphtha which the men have to deal with in the manufacturing process. The occurrence of cancer of the lungs among workers in smaltine mines (78) has been thought to be due to the inhalation of the dust[23] (arsenide of cobalt), and cancer of the bladder among aniline workers has been attributed to the effects of the excretion of arsenic inhaled as vapour in the process of manufacture (24). I have not met with any definite statement as to the frequency of cancer among the arsenic eaters of Styria. Probably their number is small as compared with that of the sufferers from psoriasis who have been for years together treated with Fowler's solution.

If this wide occurrence of arsenic tends to justify the suggestion that it may be a frequent factor in the causation of epithelioma, that suggestion may also find support in pathology and therapeutics; for among the recognised effects of arsenic on the body none perhaps are more marked than those on the skin. In moderate doses it gives rise to hyperidrosis, pigmentation, keratosis, both diffuse and circumscribed, producing hoofs and corns, especially in the palms and soles, with desquamation and sometimes warts in other regions, followed by atrophy of the papillæ of the corium and of the skin glands, and finally of the epidermis also.[24] "In frogs poisoned with arsenic the epidermis peels off very easily" (79). The external application of arsenic in various forms may also, apart from its poisonous and destructive effects, produce dermatitis, desquamation, &c.[25] The therapeutic value of the drug with regard to the skin is seen in the treatment of psoriasis and other chronic skin diseases.

This pathological and therapeutic action of arsenic on the skin, especially on the epithelial cells, appears to depend in part on the chemical affinity which exists between it and keratin; and it is particularly interesting, in view of the admitted power of arsenic to induce shingles and peripheral neuritis, to remember, as pointed out by the late Dr. Dixon Mann (67), that neuro-keratin is abundantly present in the nerves and in the white matter of the brain, and that those structures are capable of storing up arsenic.[26] It has also been suggested that as there are some remarkable similarities in the chemical characteristics of arsenic and phosphorus, the former may exert its pathological, and perhaps also its therapeutic, effects by replacing the latter in the molecular composition of protoplasm.[27] Another possible mode of action was pointed out by Professor Binz in 1879—namely, that, by their ready oxidation and reduction respectively in the body, arsenious acid and arsenic acid exert on the tissues the powerful effects of nascent oxygen (30). Thus there are several conceivable ways in which arsenic may act on the structures of the skin, so as to break down their natural resistance to the cancerous process.

But all this is far from affording proof that arsenic is at all generally a factor in the causation of epithelioma. And there are several considerations which seem opposed to such a supposition. One of these is the low cancer mortality of coal miners,[28] who are constantly exposed to coal dust, though it must be remembered that the proportion of arsenic in coal is very much less than in the soot derived from it (70). Another is the existence of cases closely resembling those herein reported, but without any history, sign, or apparent probability of arsenic having been at any time present, such as the series of 56 cases of cancer of the hand referred to by Mr. Cheatle.[29] There are also the numerous cases where

[18] Professor Delépine found 5½ grains and 28 grains respectively of arsenious acid per pound in two samples of coal soot (68).

[19] E.g., Butlin found that 29 out of the 39 cases of scrotal cancer admitted during 20 years into St. Bartholomew's Hospital occurred in chimney-sweeps (28).

[20] Thus it appears that the mortality from cancer among chimney-sweeps, as compared with males generally, is not now nearly as excessive as it was 30 years ago; but it must be remembered that ever since the middle of last century the percentage of registered deaths from cancer in males has gone up continuously, and is now more than treble what it was 60 years ago. See chart in Vol. I. of Supplement to Sixty-fifth Annual Report. Happily this seems to be largely accounted for by increasing exactitude in the certificates of cause of death. Lawson (21) suggested that the discontinuance of the practice of riddling the soot (in consequence of its diminished value) has reduced the incidence of scrotal cancer in chimney-sweeps.

[21] From an etiological point of view it seems a pity that the different genital organs are not classed separately. In the Sixty-eighth Annual Report of the Registrar-General, Table K, p. cii., shows the deaths from cancer in males in various parts of the body, but unfortunately it does not specify the scrotum.

[22] See Professor Volkmann, on Tar, Paraffin, and Soot Cancer (76); Dr. Joseph Bell, F.R.S.E., on Paraffin Epithelioma of the Scrotum (77); Dr. Robert Kirk, on Paraffin Cancer (33).

[23] Sir Frederic Eve referred to this occurrence in the discussion on Sir Jonathan Hutchinson's cases at the Pathological Society (23).

[24] See The Action of Arsenic on the Skin, by Dr. H. G. Brooke (29).

[25] Many details as to eruptions caused both by internal and by external applications of arsenic are to be found in Drug Eruptions, by Prince A. Morrow, M.D., edited by Dr. T. Colcott Fox (9).

[26] This raises the question whether it is through the nerves rather than directly on the skin that arsenic acts in the development of cancer, and recalls the relation of skin cancers to nerve areas, repeatedly pointed out by Mr. Cheatle. See Note upon a Possible Relationship between Carcinoma and Nerve or Trophic Areas, by G. Lenthal Cheatle, C.B. (32), and subsequent papers.

[27] Dr. H. Leslie Roberts, in a paper on the Action of Arsenic on the Healthy Tissues of the Skin, states that "M. Bouillac has shown (Journal of Chemical Society, Part II., 1898) that arsenates may partially take the place of phosphates in the nutrition of many algæ" (30).

[28] The comparative mortality figure for cancer at all ages is given in the Sixty-fifth Annual Report of the Registrar-General (74) as being 3 for all occupied males, 136 for chimney-sweeps, 51 for coal miners.

[29] Observations on the Incidence and Spread of Cancer, by G. Lenthal Cheatle, C.B. (34)

injuries or irritations of various kinds provide such obvious causes as to exclude the suggestion of arsenic in the absence of definite evidence—e.g., the collection made by Dr. C. Labiche[30] of 29 cases of epithelioma of the hand, mostly in labourers and grooms, men whose work exposes them to injury and dirt, and the 11 cases of X ray cancer collected by Dr. Charles Allen Porter (59). Again, the frequency of multiplicity in the lesions, which the arsenic cancer cases have in common with the X ray cases, the cases of sailor's cancer, and those of xerodermia pigmentosa, seems to separate all these from the more ordinary cases of single epithelioma of the skin, and to point to the presence in them of such special etiological factors as arsenic, X rays, atmospheric and solar influences. Lastly, where hyperkeratosis is present we already have a condition that is well recognised as one which is frequently pre-cancerous, though only exceptionally referable to the effect of arsenic.[31]

The fact that it may not be until many years after the drug has been discontinued that the cancerous process sets in has been made an objection to admitting in any cases a causal relationship of arsenic to cancer. This difficulty, however, if admitted to be valid, is present also, though in a less degree, with regard to arsenical keratosis. In the principal case here reported a period of eight or nine years was apparently required for the development of keratosis after the arsenic had ceased to be taken, a further period of six years elapsing before cancer commenced. Whether or not it is possible for the arsenic which has become fixed in the keratin of the cuticle to continue to affect the deeper layers of the epidermis, it must not be forgotten that it may be stored up also in vascular structures, such as the white matter of the brain (67) and the thyroid,[32] whence it may be transferred by the blood to the skin so slowly that years may conceivably be occupied in the process.

It seems, therefore, reasonable to conclude that, whilst arsenic plays a definite part as an indirect etiological factor in the small group of cases of so-called arsenic cancer, there is no probability of its being of etiological importance in the great majority of cases of epithelioma of the skin, and still less in cancer generally. Arsenic cannot be regarded as the essential and efficient cause, without which cancer cannot occur, but it may well be one of many predisposing or contributory causes.

The real cause of cancer is yet to seek. Among the latest hypotheses on the subject there is one which offers a biochemical explanation of the cancer-inducing properties of soot, tar, pitch, &c., other than their containing arsenic. In the McFadden researches into the cause of cancer (81) the view is put forward that cancer is "due to a combination of two factors—local injury, with the production of auxetics," and the simultaneous absorption of augmentors by the cells. Auxetics are defined as chemical substances containing the amidine grouping, some of which (natural auxetics—e.g. creatine and tyrosine) are set free by the death of protoplasm, whilst others (artificial auxetics, e.g., theobromine and allantoin) are of different origins, and which all have the power of causing cell division and reproduction, exerting this power in normal growth, in healing, and in benign tumour growth. Augmentors (kinetics) are alkaloidal substances (natural, produced in the body by bacterial putrefaction—viz., cadaverine and choline,[33] and artificial, e.g., atropine and other vegetable alkaloids), which, when added to them, greatly increase the action of the auxetics. The hypothesis is that "cancerous proliferation is immediately brought about by the causes of normal cell proliferation (auxetics) *plus* augmentors." Both auxetics and augmentors have been found by the authors in tar, gas-works pitch, and soot; and Mr. H. C. Ross informs me that, judging by its action with individual cells *in vitro*, "arsenic is not a direct auxetic, but it has slight kinetic action," and may thus act as an augmentor. If this work should receive confirmation and gain general acceptance, it would seem likely to elucidate the mode of action of many reputed factors in the causation of cancer.

The etiology of arsenic cancer points definitely to its prophylaxis. On the first indication of arsenical keratosis the drug should be suspended, and the condition, if it continues, should be treated by local applications (such as salicylic acid preparations or X rays) to the diffuse lesions and carbon-dioxide snow (which Dr. Nutt found very succesful in our case) to the corns and warts. If a fissure persists for more than a month, or if an ulcer develops, probably the best treatment is that advised by Dr. C. A. Porter for X ray ulcers (59)—viz., erasion and skin grafting. When once epithelioma is diagnosed (and the diagnosis presents no special difficulty, and should not long remain doubtful) the treatment should be prompt and energetic—wide excision or amputation—the latter being usually required in the case of a finger, and sometimes for a hand or foot. Multiple or recurrent lesions may need manifold or repeated operations. The prognosis is apparently at least as bad as it usually is in cases of epithelioma of the skin.

Whether or not the existence of this group of cases is capable of throwing any light on the problem of the cause of cancer, its recognition may at least serve to warn us of a danger attaching to the prolonged administration of arsenic.

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[30] Thèse de Dermatologie, Faculté de Paris, 1897 (43).

[31] Professor W. Dubreuilh, at the Twelfth International Congress of Medicine in 1896, proposed the name "pre-cancerous keratoses" for such conditions as "senile horns, senile keratosis, the hyperkeratosis of xeroderma pigmentosum, arsenical keratosis, the warts of chimney-sweeps and paraffin workers, and the leukoplakia of mucous membranes."—"De la Mélanose Circonscrite Précancéreuse" (48).

[32] See analysis by M. Armand Gautier, quoted by Dr. H. Leslie Roberts (30).

[33] On the other hand, choline has been used with encouraging results in the treatment of cancer by Professor Werner at the Heidelberg Cancer Institute, at whose head is Professor Czerny (36). Similarly arsenic has often been credited with curative properties in cases of cancer, a possibility by no means incompatible with its being, in other cases, a factor in inducing the disease. X rays are capable of both causing and curing cancer, and the effects of drugs (as, indeed, of actions in general) may be good or bad according to circumstances.

SOME NOTES ON

A NEW GUAIACOL CHLOR-IODIDE COMPOUND IN THE TREATMENT OF VARIOUS CONDITIONS.

BY JOHN MABERLY, M.R.C.S. ENG., L.R.C.P. LOND.

THE medical profession is very wisely sceptical regarding the testimony of individuals to the action of any new and unknown remedy. Such scepticism may, however, be carried too far, and in such a case may stand in the way of progress and prevent any individual practitioner from bringing before his fellows new remedies of whose value he is firmly convinced, but which require confirmatory evidence to be established on a thoroughly satisfactory basis. The only way in which this can be done is after the original worker has carefully tested his ideas among his own patients, and has satisfied himself as to their value, to publish the work in such a way as to enable other observers to prove or disprove his statements. This I why I wish to publish the results of certain investigations in regard to the action of some new wood tar extractive compounds with haloid bodies. The investigations have reached a stage at which I am convinced of the special value of my preparations, and I bring them forward that they may be tested by independent and unprejudiced observers.

About three years ago the idea occurred to me that if it were possible to obtain chemical combination between some of the haloids and the wood-tar derivatives, such as guaiacol, it would be quite likely that I should get some more definite results in the treatment of my tuberculous patients than I had hitherto done. My first combination was one between guaiacol and iodine in a soluble form, which could be administered by the mouth as a not too unpleasant mixture. Experimental administration at first on advanced and hopeless cases proved that it could be taken without doing any harm, but also without doing any very noticeable good so far as lung cases were concerned. I discovered, however, that it had a very distinct and beneficial action on bone and glandular types, and also certainly appeared to have a very definite action in the course of a case of what seemed to be tuberculous meningitis. These actions, however, need further investigation. The drug which I bring now to the notice of the medical profession is a synthetic compound containing substituted chlorine and iodine derivatives of guaiacol, which I have named mistura guaiacol chlor-iodide. After finding that my iodine compound did not seem to benefit the lungs, I then set to work at an attempt to add chlorine, under the impression that, as it was particularly a lung irritant and also a powerful antiseptic, it might, in combination with such a body as guaiacol, act in the way in which I desired—namely, as a lung antiseptic and stimulant. After a good deal of trouble, and with the assistance of a highly equipped chemist, I obtained the compound which I am now using and which I am convinced has very interesting and valuable medicinal properties. It is at present quite impossible to give a chemical formula for the body or bodies in the compound which are responsible for its therapeutic action.

In experimenting with this drug, Mistura guaiacol chlor-iodide, I started with a certain amount of trepidation and only risked administering it in very small doses and to cases which were practically hopeless; but as I gained knowledge and confidence in its action and became satisfied as to its harmlessness and proper dosage I commenced to give it to patients in various stages of tuberculosis of the lungs and other morbid conditions, and the conviction became gradually established in my mind that the drug was a big advance on anything previously used in the treatment of phthisis in the early and incipient stages of asthma, emphysema, or chronic bronchitis, and, finally, an accidental discovery suggested that it was a valuable uterine antiseptic and stimulant.

Some pulmonary cases.—First, as to the action of the drug in asthma and emphysema. One afternoon in July last year an elderly man, extremely embarrassed in his breathing and very cyanosed, came with great difficulty to see me. I assisted him gently to a seat under the verandah and made him sit perfectly quiet until he had to some extent recovered his breath and appeared out of immediate danger of suffocation. I then got him into the surgery, and after rapidly examining the front of the chest came to the conclusion that he was suffering from an acute attack of dyspnœa combined with an old emphysematous condition of the lungs. The front of both lungs was hyper-resonant and the lung vesicles were evidently over-distended. The inspiratory efforts were accompanied with a general heaving of the chest wall, but very little air appeared either to be entering or leaving the chest cavity—in fact, the patient was evidently in danger of suffocation on the slightest extra exertion. His heart appeared perfectly sound. The patient evidently required a rapidly diffusible drug which would stimulate and establish normal respiration. I accordingly gave him, as an experiment, a tablespoonful of my compound and watched the result. To my relief and pleasure in a few minutes my patient appeared greatly relieved, and he stated that he felt as if "his lungs had opened up." In a quarter of an hour he was able to walk home, feeling comparatively easy. I subsequently learned from him that he had been suffering from what he described as chronic bronchitis and shortness of breath, especially on exertion, for about three years, and that it had steadily been getting worse. He had not been able to walk fast or up hill for some time without experiencing great difficulty in breathing. I put him on dessertspoonful doses of the mixture every six hours well diluted, and he steadily improved. He continued the treatment for about three weeks, and at the end of that time assured me that he felt quite another person and could get up hill as well as when he was a young man. He has remained perfectly well since. During the first two or three days of treatment he coughed up a great amount of dirty-coloured, ropy, and glutinous sputum.

A typical case of true asthma came to me in January this year. This man had for some years been accustomed to be laid up two or three times every summer, often for two or three weeks at a time, during the prevalence of the dry south-east winds at that season of the year at the Cape. He had been treated by several medical men for the condition, and had tried with the usual limited amount of success the various preparations on the market. He sent for me during an acute attack. After examining him and finding that he was suffering from the typical form of asthma, with short inspiratory efforts followed by long wheezing expiratory sounds, I gave him a dose of the guaiacol compound on the spot, and again had the pleasure of seeing the effect of the drug in causing rapid relief from that distressing feeling of suffocation and in the re-establishment of the proper relation between the inspiratory and expiratory sounds. This patient returned to his duties 24 hours afterwards, and had no return during the remaining south-east wind season.

I am glad to be able to record a confirmation case by another observer of the same rapid relief following the administration of the guaiacol chlor-iodide. The case is one of distressing dyspnœa and tuberculosis, kindly placed under my treatment by Mr. W. Benton, medical officer of health at East Ham. The patient was a man suffering from advanced pulmonary tuberculosis complicated with an almost continuous condition of dyspnœa. He had been under treatment for three months in the isolation hospital without any satisfactory result. When I visited him in company with Mr. Benton on June 30th last the patient was sitting propped up in bed, with a distressed expression, taking short, rapid, dragging inspirations; the chest wall heaved with each inspiratory effort, with very little true expansion, and with a retraction of the intercostal muscles. Auscultation showed that there was very little air entering the vesicles, although the inspiratory effort was prolonged. The breathing was 36 to the minute. By Mr. Benton's instructions the patient took 2 drachms of mistura guaiacol chlor-iodide diluted with water, and after waiting two or three minutes he experienced a feeling of relief. Mr. Benton and I then went round the building, and on returning to our patient about a quarter of an hour later found him breathing comparatively comfortably at the rate of 26 to the minute and taking good inspirations with quite noticeable improvement in the expansion and recession of the chest wall with each respiration. He expressed himself as feeling very much easier. He is continuing taking the drug at six-hourly intervals, and Mr. Benton informed me that he still feels benefit from it.

In regard to the action of the guaiacol chlor-iodide compound in pulmonary tuberculosis, my experience in Cape Colony over a period of 18 months leads me to the belief

that it will prove of great value in arresting the disease in early and incipient cases, and also in some of a more advanced type in which the natural resisting power is not too far reduced. On arriving in London two months ago my first endeavour was to get hold of a set of cases on which to test my impressions under the control of well-qualified independent observers and under conditions of climate, &c., which differ immensely from those prevalent at the Cape. Such an opportunity was kindly given me by Dr. F. J. Wethered at the Brompton Hospital for Diseases of the Chest. Unfortunately, most of the work was vitiated from the outset by the fact that in synthetising the drug I used boiled London water, and evidently the heavy amount of lime which that water contains had the effect in combination of upsetting the patients' stomachs, and consequently stopping the administration of the drug. At the Cape the water is almost free of lime, and I did not realise the danger. That this was the cause was proved by the fact that a male patient of mine who returned with me from Africa (an advanced case), and who had been taking the drug steadily for months without any ill-effects, complained of a similar effect, loss of appetite and diarrhœa after taking some of the same preparation. When distilled water was used all unpleasant effects disappeared. He states that he always feels better when taking the drug. This case is one which was treated about two years ago in the Leeds Sanatorium and then sent to South Africa. The patient resided in the Free State for 12 months with no advantage. Both lungs have excavations which have largely fibrosed, but the left base is still in an active state of tuberculosis. He commenced taking mistura guaiacol chlor-iodide in January this year, and for a time improved immensely in general health; the moist sounds present at first in many parts of both lungs disappeared. The left base, however, remained full of râles and indications of active tuberculosis, and in spite of continued administration no improvement in this portion of the lung is noticeable.

Reverting to the cases at the Brompton Hospital, after stopping the drug in three cases on account of the gastric disturbance caused by the error in preparation, three patients —one suffering from bad bronchiectasis and two from fairly advanced pulmonary tuberculosis, all of whom had failed after prolonged hospital treatment to make any headway—continued to take the drug, but failed to show any beneficial result. I had expected, judging by my South African experience in general practice, to have seen some definite improvement in at any rate two of these cases, especially as the patients were under the most favourable conditions, and I am convinced that the opinion formed both by myself and the resident physician, Dr. A. S. Hahn, who took a keen interest in giving the drug a fair test, was correct—namely, that the benefit was *nil*. One out-patient, a woman, who has been attending for some years with a history of a bronchitic type of asthma, quite confirmed my previous experience of the drug in this type of case. Her own statement on June 25th, 1913, after a week's treatment at home was that she felt much better and was convinced that "the drug had done her a lot of good. She could take a deep breath." On the 23rd she stated that she had a sharp attack of asthma, and took the medicine during the attack with much relief. She had previously always gone to bed when an attack came on, and remained there for some days. During this attack she had been able to get about in the usual way. When seen on the 25th her breathing was normal.

Before I can with confidence make any more definite statements in regard to the mixture guaiacol chlor-iodide in relation to its value in pulmonary tuberculosis *per se* in this country it will be necessary to carry on further experimental clinical observations. From theoretical considerations and from past experience in South Africa I believe it will be found useful, especially in the early stages, and again in those cases where the natural resisting power of the patient is sufficient to arrest the disease and convert it into a more or less chronic form unaccompanied with fever. In these cases I believe it will be of considerable help in hastening the fibrotic changes which are associated with permanent arrest of the disease.

Septic conditions of the uterus.—One quite accidentally discovered property of this compound is its action in acute and chronic cases of this sort. The first time my attention was drawn to this effect was by a married patient to whom I had given the drug for chronic cough of questionably tuberculous origin. She returned about 10 days after and stated that she felt distinctly stronger. She had been accustomed for some time to notice a very disagreeable smell with the menses, and at times had an unpleasant uterine discharge between the periods. This time, whilst taking the drug, she noticed a strong carbolic smell in the soiled diapers, and also that the menstrual discharge had disappeared in a much more rapid and complete way than it had been doing for some time previous. This statement suggested strongly that some portion of the drug had been eliminated by the uterine mucous membrane, where it had acted as a tonic and active disinfectant, and I made up my mind to test that possibility on any suitable case. Not very long after a young married woman came to me for treatment with a history of having been confined of a healthy child three months previously, but since the confinement she had suffered almost continually from a disagreeable uterine discharge which had never cleared up and which her medical advisers had failed to cure. She was an athletic type of woman, accustomed to plenty of outdoor exercise, and stated that since her confinement she had never felt really well, complaining of pains in the limbs, headache, and general feeling of malaise, with tenderness over the pelvic region; there could be no doubt that the whole of her symptoms were due to septic conditions. I put her on half-ounce doses of guaiacol chlor-iodide every six hours in water without any attempt at local treatment, and when she returned two days afterwards she stated that after the first dose she began to feel easier, and now felt quite well. The discharge had ceased and with it all the unpleasant sensations which had been bothering her for the last three months.

This result was extremely satisfactory to me as well as to the patient, and I determined on the first suitable opportunity to test the value of the drug in puerperal fever. One day in February this year I was sent for to attend a patient by one of the coloured untrained midwives, who are still only too common in South African towns. On arrival I found a very stout, middle-aged coloured woman lying in bed complaining of great feverishness. She had been delivered by the midwife five days previously without any proper antiseptic precautions, and on examination I found the temperature 103·5° F., pulse rapid, and lochia scanty and very offensive. I put her at once on mistura guaiacol chlor-iodide, without any other form of treatment, and told the midwife to let me know if the patient did not rapidly improve, as in that case I would have to cleanse the uterus thoroughly. As I heard nothing of the case for two days, I looked in on the third day and found the whole of the uterine symptoms cleared up, the temperature normal, and the patient merely suffering from constipation. Since then I have treated two cases of a similar but not so severe nature in the same satisfactory manner. One, however, that of a case of abortion in a married woman, was instructive. This woman, who was a partly trained nurse, had managed to pass a catheter into the uterus and brought on an early miscarriage. She had evidently, however, carried some infection into the uterus, as on the second day she had a rise of temperature which alarmed her. She sent for me and told me what had happened, and I gave her four doses of the guaiacol mixture to take at intervals of six hours. She was very anxious that I should douche out the uterus, but I refused. The next day her temperature came to normal, but two days afterwards she again sent and I found the temperature had again risen. This time I gave her the drug again, but, the temperature persisting, I gave her a uterine douche and washed out a piece of dead membrane. The patient had no further trouble. Apparently the drug had been able to disinfect the uterine mucous membrane and do away with the fever due to microbic infection in the first instance, but had not been able to produce any effect on the fever due to the presence of a dead and septic piece of membrane which was lying like a foreign body in the uterine cavity. In this case a douche was necessary, particularly as the abortion was an early one, and the uterine os being small, septic matter was not so easily expelled.

A friend of mine at the Cape had a very interesting confirmatory case of the action of the drug when taken by the mouth on the condition of septic uterine trouble. This was the case of a valuable bitch who, since her confinement of a litter of pups three months previously, had been steadily going down in health, with a continued fever and septic discharge

from the vagina, probably of uterine origin. She had been treated by the veterinary surgeon in orthodox manner without any apparent result, and in April this year my friend asked me if I thought my drug would do her any good. He stated that the dog was in a hopeless condition, and the veterinary surgeon had given her up. I told him he might try and advised him to give her small doses every three or four hours. I happened to meet him three days after and he informed me that the result of the administration had been most startling. The bitch had been given up on the Thursday as just about finished, and after a few doses of the mixture by the Saturday morning she was getting about, taking her food, and her temperature was normal, and seemed fairly started on the way to convalescence.

Conclusions.—The following is a summary of the conclusions which I think I am so far justified in drawing from the premisses at my disposal:—

1. That mistura guaiacol chlor-iodide controls and relieves asthma and the dyspnœa of emphysema in a rapid and satisfactory manner.
2. That it has the peculiar property of being eliminated as a powerful local antiseptic at the uterus, where it acts as a curative agent in chronic and acute septic conditions.
3. That it acts as a lung stimulant and antiseptic in many forms of chronic bronchitis.
4. That its value in the medical treatment of early and incipient phthisis, and also in some of the chronic forms, especially those in which the temperature is usually normal, requires further working out, and at the same time is of a promising character.

Note from THE LANCET *Laboratory.*

A specimen of the compound was obtained from Messrs. Burgoyne, Burbidges and Co., of Coleman-street, London, and examined in THE LANCET Laboratory. It proved to be a light brown syrupy fluid smelling strongly of guaiacol. Evidence of the presence of alcohol and sugar was obtained. On saponification with an alkali, and subsequently evaporating the mixture to dryness and igniting to a clean ash, both iodide and chloride were found in the residue. The amount of iodine extracted by chloroform was small, and did not exceed 0·05 grm. per 100 grammes of fluid examined. There was no indication of the iodine or chlorine being present in the free state.

LARYNGECTOMY SUBSEQUENT TO TRACHEOTOMY FOR EPITHELIOMA OF THE LARYNX.

BY DAN McKENZIE, M.D. GLASG., F.R.C.S. EDIN.,
SURGEON, CENTRAL LONDON THROAT AND EAR HOSPITAL.

IN the evolution of the modern operation of laryngectomy the detail which more than any other, perhaps, is generally credited with minimising the operation mortality has been the separation of the tracheobronchial system from the laryngectomy wound. By this modification the occurrence of septic broncho-pneumonia is avoided, and in consequence the patient's chances of recovery from the operation are materially improved.

In the typical operation the air passages are not opened until the larynx and the upper part of the trachea have been dissected free of the soft parts on its lateral aspects, and up to this point the anæsthetic is administered *per vias naturales*. But when this dissection is completed the trachea is severed across completely by a transverse incision from behind forwards, and a special metal cannula having been inserted into the upper end of the divided trachea, the anæsthetic is given through it, while the separation of the trachea and larynx from the œsophagus and laryngopharynx is completed. The final steps in the operation consist in the removal of the cannula, in bending the tracheal stump forward, and in passing it through a slit or a window in the skin of the neck just above the episternal notch and independent of the large operation wound. To the margins of this slit the entire circumference of the trachea is sutured. By this device the open trachea is wholly shut off from the laryngectomy wound and from the discharges which during convalescence find their way into that wound from the mouth and pharynx.

Experience has shown that there are one or two objections to this method. The most important of these objections is that the sutures which anchor the trachea to the skin not infrequently cut out during the first week after the operation, partly of their own accord and partly in consequence of the coughing which so often occurs in the first few days after the operation. As a result the trachea works loose and becomes a source of annoyance both to the patient and to his surgeon. That being the case, many operators prefer to carry out the operation *en deux temps*, performing tracheotomy some weeks prior to the larger operation, in order that the trachea may become securely adherent to the skin and subcutaneous tissues before its final severance and suture. This plan, however, is not free from difficulties; for the space at the disposal of the surgeon after a low tracheotomy has been performed does not readily permit of the bending forward of the trachea, while to dissect the windpipe free of the adhesions around the tracheotomy tube takes us back to the original operation with its loosely anchored trachea. In the following case the difficulty was overcome by closing with sutures the upper end of the trachea, while the original tracheotomy was left open with the tube *in situ*—that is to say, no attempt was made to bend the trachea forward or to conduct respiration through its upper end until many days after the operation. The result was sufficiently good to justify publication.

The patient was a male, aged 52 years, who came to the Central London Throat and Ear Hospital on Nov. 20th, 1912, complaining of loss of voice of some months' duration. On examination a growth was seen in the larynx involving practically the whole of the left side and extending round the anterior and posterior commissures of the cords to implicate part of the right side. The nodular and papilliform appearance of the growth, together with the complete immobility of the affected side of the larynx, raised strong suspicions of malignancy. No enlarged glands could be felt in the neck, and there was no history of syphilis. The patient was also suffering from advanced pyorrhœa alveolaris. A portion of the tumour was removed by the direct method, and Dr. V. H. Wyatt Wingrave pronounced it to be typical epithelioma. The sequel to this little operation was alarming but instructive. A few days later, when I was on holiday, the growth in the larynx took on a rapid swelling and breathing became increasingly difficult; so much so that Mr. A. Ryland, house surgeon to the hospital, was forced to perform an urgent tracheotomy under local anæsthesia. Shortly after my return the swelling in the larynx subsided, and we came to the conclusion that what had happened was that the larynx had become infected in consequence of our having operated through a septic mouth. This lesson we took to heart, as will be seen. The risks of the disease and of the operation having been clearly laid before the patient, he elected to submit himself to the operation.

Preparation.—Our first step was to clean the mouth. All the teeth were removed, and an antiseptic mouthwash was ordered to be used frequently. Next three doses of antistreptococcus serum were given at intervals of 24 hours immediately before the operation. The skin, &c., were prepared in the usual way.

Operation.—Jan. 12th, 1913. After morphia and atropine hypodermically, chloroform was administered by Dr. J. D. Mortimer through a Hahn's tube in the tracheotomy opening; the anæsthesia throughout was placid. The incisions and dissections made were of the typical kind and call for no special remark. When we came to the method of dealing with the trachea, however, a departure which was made from the ordinary procedure necessitates detailed description. The trachea having been cut completely across by a transverse incision from behind forwards, its severed thoracic end was packed with gauze while the larynx was being separated and removed from below upwards from the œsophagus and oropharynx. This done I turned again to the trachea, and after consideration determined to close its gaping end by means of sutures and to retain the tracheotomy tube in the tracheotomy wound during convalescence. The drawing together of the margins of the upper end of the trachea proved easier than had been anticipated, as the cartilaginous rings did not seem to present any hindrance to its closure.

The usual plan was followed in suturing the Y-shaped wound in the pharynx which was caused in detaching and excising the larynx. But in suturing the external skin wound another departure was made from the rule in order to suit the special circumstances of the case. The upper transverse incision at the level of the hyoid bone was closed save for a drainage opening in the middle line, while the medial vertical incision was entirely closed. But, save for a stitch at each of its extremities, the lower transverse wound at the level of the severed trachea was left wholly open, and sutures pinning the *lower margins* of the skin flaps to the *posterior point* of the closed trachea were inserted so as to prevent overriding of the tracheal stump by these flaps—that is to say, the lower incision now formed an open wound with the closed tracheal stump in the middle of it, while respiration was continued through the ordinary tracheotomy opening, as it had been before the operation. My object was to convert the lower wound into an open receptacle packed with gauze into which the discharges from above could gravitate and from which they could be rapidly, easily, and, if necessary, frequently removed. Their entrance into the trachea was prevented by the closure of its upper end in the manner already described. Healing progressed smoothly, and with the solitary exception of a stitch abscess in the middle incision the convalescence was uninterrupted.

On the ninth and tenth day the sutures in the upper end of the trachea began to give way, and the upper end of the trachea began to open. But by this time the upper part of the large wound, into which the oral and pharyngeal discharges were draining, had become quite shut off from the lower part of the wound, in the middle of which was the tracheal stump, surrounded by healthy granulations with little or no secretion. By the eighteenth day the upper end of the trachea was widely gaping, all the sutures having given way, and on Feb. 8th, the lower wound having entirely cicatrised, the metal tracheotomy tube, which had so far remained in the original tracheotomy wound throughout the whole course of the case, was finally removed, and in its place a soft rubber tube was inserted into the upper end of the trachea, which was now almost flush with the skin, just as if the typical Glück operation had been performed. The original tracheotomy wound was now allowed to close, respiration being carried on entirely through the upper end of the trachea.

The patient was discharged well on Feb. 17th, 36 days after the operation.

June 13th, 1913.—The patient was shown at the Medical Graduates' College and Polyclinic. There is no sign of any recurrence so far, and he has put on 2 stones in weight since the operation. He is resuming work, but he still wears the rubber tube in the upper end of the trachea.

Note.—The only objection to this plan of operation is that, as a result of causing the lower incision to heal by granulation, a considerable amount of scar tissue forms around the tracheal orifice, and as this cicatricial tissue contracts very quickly and reduces the size of the breathing orifice, the patient is compelled to continue wearing a rubber tracheotomy tube.

Brook-street, W.

PRESENTATIONS TO MEDICAL MEN.—Dr. R. M. Beaton was entertained at dinner by a representative gathering of medical men in Islington and St. Pancras at the Holborn Restaurant on July 17th. Mr. Patrick Whyte Rattray occupied the chair, and in proposing the health of Dr. Beaton, which was enthusiastically received, dwelt on the great services rendered to the medical profession by Dr. Beaton during the last two strenuous years. On behalf of 73 fellow practitioners he then presented him with a silver tea service, salver, and silver cigarette box. Mr. A. R. Roche, Dr. Constance Long, and Dr. J. Maughan spoke to the toast, and the speakers assured Dr. Beaton of the esteem in which he was held, and the debt his colleagues in Islington and St. Pancras particularly had incurred by his devoted labours.—The inhabitants of High Bickington (Devon) have presented Mr. Arnold Saxty Good, L.R.C.P. Lond., M.R.C.S. Eng., with a silver tea-pot, hot-water jug, &c., as a mark of respect and esteem on the occasion of his marriage.

A CASE OF LIGHTNING STROKE, FOLLOWED BY RECOVERY.

BY WILLIAM GEM, L.R.C.P. & S. IREL.,
MEDICAL OFFICER OF HEALTH OF KRUGERSDORP, TRANSVAAL.

THE patient, a Damaraland native, aged 33 years, an underground miner of good muscular development, whilst proceeding to his hut in a thunderstorm, was struck by lightning and rendered unconscious, and his escape from death seems remarkable. The injuries sustained by him were as follows. The lightning struck the back of the head, burning and lacerating the scalp, passing to the left shoulder, whence it turned to the front of the chest and ribs; from the ribs it travelled down the spine, the current leaving a dark subcutaneous line in its course. Passing over the gluteus, which was very much burned, it proceeded down the back of the leg, making exit by cutting a V-shaped piece out of the muscles and tissues of the foot, and fracturing the fifth, fourth, and third metatarsal bones, the fifth metatarsal being almost torn from its socket and twisted perpendicularly. All the bones fractured were clean fractures, as if cut by some surgical instrument. The fourth and third metatarsals were pushed back and set and the

Reproduction of photograph of right foot, showing exit wound.

wound left to granulate up, which has since healed satisfactorily, with every prospect of the patient possessing a workable foot. The practice among natives is conservative surgery, because they heal so well. The native's clothes were burnt from top to bottom and torn from his body.

There was a break in the weather on the day of the accident, when a thunderstorm broke over the district and rain fell, the storm and lightning lasting only about ten minutes. Where the patient was found there was a hole about six inches deep by two feet wide, and alongside a large wet iron-stone, the hole being evidently where the lightning spent itself.

The question arises, Is it possible that the lightning was attracted from the native's body by the damp iron-stone and so spared his life, or was the lightning attracted by the wet iron-stone in the first instance? The late Sir Samuel Wilks, commenting on a leading article published in THE LANCET[1] in which a case recorded by me is referred to, maintained that lightning acts as an explosive force. Did Sir Samuel Wilks mean that the explosive force of lightning acts like any other explosive force—say, for instance, the explosive force of dynamite? If so, how is it we get these clean fractures in lightning and not in other explosive forces, as in dynamite? The patient himself says he felt a great rush of wind and remembers nothing else.

Krugersdorp.

[1] THE LANCET, Jan. 2nd and 9th, 1909.

Reviews and Notices of Books.

The Difficulties and Emergencies of Obstetric Practice. By COMYNS BERKELEY, M.D., F.R.C.P., Obstetric and Gynæcological Surgeon to the Middlesex Hospital; and VICTOR BONNEY, M.D., F.R.C.S., Assistant Obstetric and Gynæcological Surgeon to the Middlesex Hospital. London: J. and A. Churchill. 1913. Pp. 787. With 287 illustrations. Price 24*s.* net.

THE object of this work is to afford definite guidance to the practitioner when he is called on to deal with the difficulties and emergencies that may attend obstetric practice. The authors have given the book a very wide range and discuss a great many conditions which hardly come under the definition of either difficulties or emergencies. This, however, adds to the value of the work and renders it the more complete.

The first chapter deals with the important subject of the diagnosis of pregnancy. We cannot agree that Hegar's sign is of but little practical value, although, no doubt, its recognition does call for some skill in palpation. In the section on the duration of pregnancy, the statement that when the date of fruitful coitus is known the duration can be calculated for certain, is hardly correct, especially in the absence of any information of the fact that in such cases the average duration is only some 269 days. In the succeeding nine chapters the diseases of all the various parts of the body which may complicate pregnancy are considered. These chapters are very full, and they include a mention of practically every condition which might be associated with pregnancy. In the chapter on eclampsia, the possible conditions which may be present are considered in detail and treatment is recommended for each; for example, in the pre-eclamptic period, in the eclamptic period when the patient has had a fit but is conscious, when the patient has had repeated fits and is comatose, and lastly, when the convulsions occur with no intermission. This will serve as an illustration of the general arrangement of the book. Every possibility is mentioned and the appropriate treatment is given. Such an arrangement necessarily leads to a good deal of repetition, but it certainly gives the reader a very clear idea as to what the authors recommend in every contingency. In the treatment of eclampsia their predilection is towards immediate emptying of the uterus in practically all cases. The authors' desire not to pass over anything leads them to give unnecessary space to such relatively unimportant conditions in this connexion as gall-stones, cancer and abscess of the liver, and perisplenic abscess, which, like any other disease, may complicate pregnancy, but which can hardly be termed difficulties or emergencies of pregnancy.

The section on insanity in association with childbearing has been written by Dr. Hubert Bond, and contains a good account of this important condition. In the treatment of tuberculosis complicating pregnancy the induction of abortion or premature labour is recommended to be reserved for very special cases. Nothing is said of the importance of removing the placental site in which the tubercle bacilli are stored up, as is recommended by von Bardeleben. In inoperable carcinoma complicating pregnancy the authors are in favour of Cæsarean section followed by high amputation of the uterus and intraperitoneal treatment of the stump. The treatment of an ovarian cyst complicating labour which cannot be removed should be incision rather than tapping through the vagina. The description of a collarette placenta as one in which the placental tissue overlaps the chorioplacental junction may mislead the reader as to the exact nature of this interesting anomaly. We wonder what evidence there is for the statement that old age or youth on the part of the male parent is a cause of miscarriage.

The treatment of cases of accidental hæmorrhage and placenta prævia is considered in great detail, and mainly follows ordinary current teaching. In the treatment of postpartum hæmorrhage the authors consider that compression of the abdominal aorta is a singularly unscientific procedure. In describing what is usually termed inertia of the uterus, the terms "sluggish uterus," "exhausted uterus," and "hyperactivity of the uterus" are employed to indicate what are usually termed primary uterine inertia, secondary uterine inertia, and tonic contraction of the uterus. In the treatment of rupture of the uterus, suture of the rent is recommended rather than hysterectomy, except when infection is probably present, when the tear is too extensive to suture, or when the presence of a myoma or a defective Cæsarean section scar renders the uterus not worth preserving. The practice of vaginal douching is strongly advocated by the authors, who maintain that its advantages outweigh its disadvantages. This view does not accord with that of many obstetricians at the present time, and in this, as in other statements in the book, too little is said of the evidence upon which the authors' conclusions are founded. This makes it difficult to come to a conclusion as to the weight which can be attached to largely unsupported expressions of opinion. In considering the public duty of the medical man, the view is expressed that the notification of puerperal fever should be given up. This is obviously a matter upon which there would be a great difference of opinion, and from the point of view of the control of the practice of midwives we feel that it would be a great mistake if this disease were no longer notifiable.

A chapter is devoted to pregnancy in abnormal positions, and the last part of the book deals very fully and well with the methods of performing the various obstetric operations.

We have been closely critical of the book because it is a good and important one. It is too large and we think that room could have been found for some support of certain of the statements by careful compression in several directions. The whole book amounts to some 787 pages, and is based upon personal experience only, the views of other authorities being hardly alluded to, and no references being given to enable the advanced student or the specialist to refer to original authors. The book can appeal only to the practitioner for whom, of course, it is primarily written. To him it should prove of value, and its utility is further enhanced by the large number of illustrations which have been especially drawn by Dr. George Dupuy.

Diseases of the Heart and Aorta. By ARTHUR DOUGLASS HIRSCHFELDER, M.D., Associate in Medicine, Johns Hopkins University. With an Introductory Note by L. F. BARKER, M.D., LL.D., Professor of Medicine, Johns Hopkins University. Second edition. Philadelphia and London: J. B. Lippincott Company. Pp. 738. Price 25*s.*

IN a previous review of this book we remarked that during the past two decades the direction of clinical observation had been towards more accurate study of disturbances of function and towards the introduction of mechanical methods for their observation—methods of precision which are intended to supplement or supplant the older and simpler methods of physical diagnosis. This view is further emphasised by a perusal of the volume now before us. The electrocardiograph, which has attracted so much of the attention of those engaged in the research of cardiac disease, is discussed in detail as to theory, construction, and application. This instrument has largely supplanted the venous pulse tracings

for the analysis of the arrhythmias. The study of the mechanism of the normal and abnormal heart-beat by this method has thrown so much light upon the origin of the beat, the action of the cardiac nerves, the paroxysmal tachycardias, and the permanent cardiac irregularity that it is becoming a routine procedure of examination in diseases of the heart, and the large hospitals are finding it necessary to instal the instrument for purposes not only of research but also of diagnosis and treatment. Dr. Hirschfelder gives an excellent description of the instrument, of its employment, and of the deductions which may be made from the tracings.

The section upon the pathology of arteriosclerosis has been rewritten, and a classification of arteriosclerotic lesions has been introduced which is of considerable merit. In the first place, Ranvier's division of the arteries has been adopted, namely—(1) vessels of the elastic type (aorta, pulmonary, carotid, and common iliac arteries), whose media is made up of lamellæ of elastic tissue interwoven with elastic fibrils; (2) arteries of the muscular type, embracing all the other arteries of the body, whose media, though containing elastic fibres, is composed chiefly of strands of smooth muscle. Diseases of the arteries occur in a variety of forms which affect these two types of vessels somewhat differently, so that for clinical convenience they may be divided into two groups, according as they affect the vessels of the elastic type or the muscle-walled vessels of the periphery. This will be found to be a satisfactory classification and one which will aid in a clearer comprehension of the various affections of the vessels. Syphilitic mesaortitis and mesarteritis are described at length. The clinical descriptions throughout the work will be found of great interest, whilst the remarks on treatment are reliable and well up to modern ideas. In discussing the treatment of cardiac failure the inhalation of carbon dioxide is mentioned, and the various methods which have been introduced for this purpose are described.

To those who wish for a treatise on diseases of the heart, containing a summary of the present knowledge on the subject, together with the results of much original experience, we can cordially recommend Dr. Hirschfelder's volume.

Skin Diseases in General Practice. By HALDIN D. DAVIS, Physician in charge of the Skin Department, Paddington Green Children's Hospital, &c. London: Henry Frowde and Hodder and Stoughton. 1913. Pp. 340. Price 15*s*.

THE scheme of the book is on clinical lines. Thus, there are chapters dealing with widespread eruptions, with eruptions affecting the face and scalp, the hands and feet, the limbs, the groins and pudenda, and with eruptions characterised chiefly by bullæ or by pigmentation. Syphilis, eczema and diseases of pyogenic origin are discussed separately. There are also chapters on modern methods of treatment, including notes on the apparatus and methods of use of X rays, radium, and carbon dioxide snow. Throughout the book is pleasant reading, the style being concise and clear. The remarks on diagnosis and treatment in most of the common diseases, though brief, are more helpful than those in some larger books.

The paragraphs on the diagnosis of impetigo and of eczema might with advantage be revised, but with these exceptions the pages dealing with diagnosis are throughout the book easy to follow, and convey the impression that the writer recalls the points which puzzled him during his student days. We note directions as to dosage of mercurial injections, and as to the methods of administration of salvarsan and neosalvarsan—points of importance usually omitted in books of this size. A few cosmetic hints are given in the chapter dealing with facial eruptions; thus, some classical prescriptions for freckles are given, but with wise reticence as to the author's experience of their efficacy.

Dr. Davis is mistaken as to the composition of vernisol (p. 111). Also we must dissent from the remark that an old pastille (Sabouraud) which has been turned before but has recovered its original tint takes about two-thirds of the time to turn that is required by a fresh pastille. No one who has worked with the Hampson pastille measure as a control would assent to this rough measure. Pastilles properly exposed to sunlight can be employed as if new for three or four occasions. Sabouraud himself employs the same pastille several times. As in most English books, the name seborrhœa is frequently used to designate pityriasis, even though the scurfy scalp is correctly described. A few minor mistakes do not alter the fact that Dr. Davis has produced a manual which should find much favour with the general practitioner.

Traité du Sang. Publié sous la direction de M. A. GILBERT, Professeur de Clinique Médicale à l'Hôtel Dieu de Paris, et M. WEINBERG, Chef de Laboratoire à l'Institut Pasteur. Deux Vols. gr. in-8 avec figures noires et coloriées. Tome Ier (le tome II. paraîtra en Octobre). Paris: J. B. Baillière et Fils. 1913. Pp. 698. Subscription price 42 francs (two vols.).

THIS "Treatise on the Blood" aims to give a complete account of this great and extensive study with all its modern technique. It is intended for those who wish to pursue original investigations on the blood, as well as for practitioners who devote attention to hæmatology in hospitals or in private practice. Obviously such a work could not be produced by one person, and here the editors have enlisted the services of no less than 50 collaborators, to each of whom has been entrusted a special part of the subject. Most of the writers are well-known members of the medical profession in France.

The first volume deals with the physico-chemical aspects of blood and its figured elements in normal and pathological conditions, and the scope of the work can be best judged of by an enumeration of the subjects dealt with. We may state that the sections are well balanced, no one of them being over-elaborated at the expense of the others. The following are the titles of the successive chapters:—Physical and Chemical Properties, A. Gilbert and E. Chabrol; Coagulation, P. Nolf; Gases, M. Nicloux; Colloidal State of the Constituents, H. Mouton; Normal Red Corpuscles, F. Weidenreich; Hæmoglobin, M. Tiffeneau; Pathological Red Corpuscles, J. Sabrazès; Blood in Anæmias, L. Tixier; Polyglobulie, Ch. Aubertin; Resistance of the Globules and Icteric Hæmatolysins, A. Chauffard and J. Troisier; Normal Leucocytes, A. Pappenheim; Phagocytosis, L. Tarassévitch; Protease and Lipase of Leucocytes and Zymo-diagnosis, N. Fiessinger; Pathological Leucocytes, J. Sabrazès; Leukæmias, A. Gilbert and E. Weil; Eosinophilia, M. Weinberg and M. Léger; Globulins, i.e., hæmatoblasts, M. Aynaud; Ultra-microscopy, M. Aynaud and P. Jeantet; Hæmatopoietic Organs, H. Rubens-Duval; Foreign Elements, e.g., granulations, G. Parturier; Microbes, J. Sabarès; Animal Parasites, H. Billet; Trypanosomes, Micro-filaria, and Leishman Bodies, F. Mesnil and A. Leboeuf; Fungi, E. Pinoy.

There are several plates in colours, while the total number of illustrations runs to 134. The chapter most profusely illustrated is that on the blood-forming organs by H. Rubens-Duval. In the chapter on the physico-chemical properties of the blood the introduction of illustrations of apparatus would be an improvement; a good deal of description would thus be saved. Dr. Nolf's article on coagulation brings this much-vexed question up to date, but we cannot help feeling that we are still far from knowing all that is to be known either of normal coagulation or of that strange perversion of state known as hæmophilia, either congenital or acquired.

The chapters on anæmias and leukæmias are concise and explicit, while considerable space is given to eosinophilia in its pathological, experimental, and clinical aspects—including many diseases of the skin. The misleading word "globulin," used by Donné in 1844 for the third element which he described as occurring in the blood, is retained by Dr. Aynaud in the sense of hæmatoblast—also a misleading word coined by Hayem in 1878. Platelets or its equivalent would be better. The chapter on the ultra-microscopy of the blood is excellent. This dark-ground illumination, which is easy of application, is of the greatest value, more especially in the examination of the blood for the presence of bacteria or protozoan infections or invasions. Typical figures of well-known diseases due to the presence of various blood parasites are given. The chapter on blood-forming glands extends to nearly 100 pages. The information on the microbes and parasitic forms is particularly good as well as concise, as was to be expected from one who is not only a doctor of science, but also the chief medical officer of the army—Dr. Billet.

We have the greatest pleasure in giving a hearty welcome to this work, embracing as it does the latest and most up-to-date information on this subject; and we congratulate the editors on the success with which they have chosen their collaborators, and the collaborators themselves on the fulness and conciseness with which each has dealt with the specific subject assigned to him. We shall look forward with pleasant anticipations to the appearance of the second volume, which will be issued in October.

La Biologie Synthétique. By STÉPHANE LEDUC, Professor at the School of Medicine at Nantes. Paris: A. Poinat. 1912. Pp. 217.

To a medical man feeling weary for the moment of medical politics or medical practice, or both, this little book should prove a useful tonic, lifting him out of the dreary rut of routine into the more exhilarating air of philosophical speculation. Here Professor Leduc continues his experimental investigation into the origin of life and the *modus operandi* of the vital processes. Here the reader will find discussed the intimate mechanism of the living organism—those purely mechanical laws which must be reckoned with in the medicine of the future. Here he will find the demonstration that aeration, digestion, circulation, and development can be regarded as variants of the universal processes of diffusion and osmosis, that the arena of life is a field of electric force, and that the phenomena of sensation and volition are conditioned by the motion of electrons in such a field. The book is full of suggestive and stimulating thought.

Synthetic biology itself is a new conception, and but a few years ago it would have been thought almost impious to attempt to imitate the natural forms and processes of life in the laboratory. A glance through these pages, however, will assure us that the attempt has been crowned with a certain measure of success. Here we have artificial cells, ciliated, ganglioniform, and segmented, artificial fibres and epithelium, stems and leaves, the striation of the muscle and the sheen of the pearl, all developed not only without life, but from inorganic substances. Algæ, corals, shells, fungi, and even the roots, stems, and fruits of highly organised plants are here imitated by inorganic growth. Nor do the exploits of synthetic biology stop here. Witness the chapters on the physiogeny of the circulation, artificial development by segmentation and karyokinesis, and on the apparent sensation and volition of the artificial cell.

The book is illustrated by over a hundred photographs of actual experiments, and a mere glance at the pictures is sufficient to show what a wide range of living objects have already been imitated by merely physical forces acting on inorganic material. We trust that this second part will speedily find a translator to complete the English edition of the work, the first part of which, under the title of "The Mechanism of Life," was reviewed in THE LANCET of July 8th, 1911.

Le Cœur et l'Aorte. Études de Radiologie Clinique. By M. H. DE VAQUEZ and M. E. BORDET. With 169 diagrams, &c. Paris: J. B. Baillière et Fils. 1913. Pp. 248. Price 15 francs, or 12*s.* 6*d.* net.

THIS collection of previously scattered researches and observations on the changes produced by disease on the shadow of the heart, added to the results obtained by the authors in their systematic investigations at the Hôpital Saint Antoine, is intended for both the physician and the radiologist. Great stress is laid on the necessity of using precise radiological methods, and the combined use of teleradioscopy and orthodiagraphy is held to provide more important data than the teleradiographic plate. The authors recommend than the antikathode be at a distance of not less than 2½ metres—thus using only approximately parallel rays. Under these circumstances an object of 15 centimetres width is enlarged only from 4 to 5 millimetres. The technique of this procedure is fully explained. The chapter on the normal heart is of special interest. After giving the appearances in various positions, minor differences associated with certain types of chest are illustrated. In subsequent chapters the changes brought about by various disorders of the heart are similarly explained. The changes produced by disease of the pericardium are also dealt with, and as might be expected the subject of aneurysm is of peculiar interest in a work of this kind.

A Monograph on Johne's Disease (Enteritis Chronica, Pseudo-tuberculosis Bovis). By F. W. TWORT, M.R.C.S., L.R.C.P., and G. L. Y. INGRAM, M.R.C.V.S. London: Baillière, Tindall, and Cox. 1913. Pp. 179. With 9 plates. Price 6*s.* net.

FOR many years a wasting disease of cattle has puzzled veterinarians in all parts of the world, and from certain clinical symptoms resembling those of tuberculosis it had been named "pseudo-tuberculosis bovis," but there were numerous well-marked points of difference, especially in regard to the respective temperatures of the sufferers and to the macroscopical appearances on post-mortem examination. It remained for Johne, professor in the Veterinary School at Dresden, and Frothingham, an American veterinarian, to demonstrate in 1895 the specific cause to be an acid-fast bacillus having definite characteristics quite distinct from those of the tubercle bacillus, and since then much research work has been done and much has been added to our knowledge of the subject. In England Sir John MacFadyean and Sir Stewart Stockman, of the Board of Agriculture, have from time to time conducted investigations into the ravages caused by the bacillus, but the question of the diagnosis of the disease in the early stages presented difficulties which were not surmounted until the discovery of a vaccine by Mr. Twort and Mr. Ingram, of the Brown Institution. These two gentlemen, the one a medical man and the other a veterinarian, working together, have discovered a vaccine of the utmost value for diagnostic purposes, the use of which enables the affected animal to be detected at once so that it can be isolated from the rest of the herd, and it is to be hoped that regulations will soon be enforced to make this a notifiable disease in the same way as is done with tuberculosis. In their monograph on the disease the authors go into every detail fully—the history,

symptoms, post-mortem appearances, diagnosis, and prophylaxis and treatment, together with the varieties of animals affected.

The book is a most valuable one and has come at a most opportune time. It is one which every medical officer of health and every veterinary surgeon should possess, for its arrangement is good, it is full of detail, and right up to date.

A Student's Manual of Surgical Diagnosis. By GEORGE EMERSON BREWER, M.D., Professor of Clinical Surgery, College of Physicians and Surgeons, Columbia University; Attending Surgeon to the Roosevelt Hospital, New York. London and New York: D. Appleton and Co. 1912. Pp. 40.

IN the small space of 40 pages the author has succeeded in putting a large amount of information eminently useful to the student or practitioner in the diagnosis of cases of surgical injury or disease. The general principles of diagnosis are explained, especially the method of diagnosis by exclusion. The author has provided a number of charts showing the various conditions between which the diagnostician has to distinguish, and these should prove valuable. It is hardly necessary to say that it is not possible to include in this small volume, or indeed in any volume, all that could be said on surgical diagnosis, but the book contains many suggestions which can be turned to great use by the diligent student, and points out the road along which the student should travel. The design of the work is good if it is rightly used.

Roentgentiefentherapie an der Freiburger Universitäts Frauenklinik. By Dr. C. J. GAUSS and Dr. H. LEMBCKE. Berlin: Urban und Schwarzenberg. 1912. Pp. 332. Price 15 marks; bound, 17 marks.

THIS volume is of special interest to radiologists and gynæcologists. It is essentially a treatise on the irradiation of deeply seated structures by the X rays, with special reference to the treatment of uterine myomata. The method described consists in directing the rays on to the uterus from many different points, so that while the uterus receives an enormous dose no part of the skin and superficial structures receives more than a fraction of the whole and thus no part can sustain injury. A large number of cases are described in detail, and the very high percentage of cures indicates a strong probability of the X rays becoming the most important method of dealing with these tumours in the future.

LIBRARY TABLE.

Joseph Bell, M.D., F.R.C.S. Edin., J.P., D.L.: An Appreciation. By an OLD FRIEND. London and Edinburgh: Oliphant, Anderson, and Ferrier. 1913. Pp. 92. Price 3*s.* 6*d.* net.—The importance of little things is an axiom which all wise parents and guardians impress upon their charges. Most of us, we expect, remember a nursery jingle which ran: "For want of a nail the shoe was lost, for want of a shoe the horse was lost, for want of a horse the rider was lost;" while Miss Edgeworth, in her delightful work, "The Parent's Assistant," pointed the same moral in a tale by name, "Waste not, Want not." The importance of little things is perhaps more evident in the profession of medicine than in any other, and it was Joseph Bell's righteous boast that both by example and precept he always impressed this fact upon his pupils. So it came about that one of his pupils, Arthur Conan Doyle, struck by his teacher's acumen in recognising the trade, occupation, or nationality of a patient directly he came into the room, and thus finding himself well advanced in his diagnosis, evolved the character of Sherlock Holmes, not altogether to the satisfaction of Bell. Both the actual and the fictional diagnostician excited the wonder of their hearers by giving results without the steps by which they had arrived at them. When the explanation was given the chain of reasoning was very simple. A much greater man of science than Bell—namely, Darwin—once did the same thing when he remarked that the crop of a certain kind of clover depended upon the number of old maids in the parish. The links of the chain were—old maids, cats, field mice, a particular humble-bee, the clover. Some of Bell's friends seem to have felt that the press in general has led the world to understand that the two personalities of Bell and Holmes were identical in every respect; hence one of Bell's oldest and most intimate friends has felt it incumbent on her to write an appreciation to show how unlike, save in one particular, were the real medical man and the fictional detective. Mrs. Saxby, for she it is who is the old friend, writes with affectionate regret for one who was obviously a gentle, God-fearing, high-souled man. The book is slight and in many places trivial—trivial, that is, for the general reader—but it is a pleasant picture of a life devoted to duty, and in Bell's own words, of one whose greatest pleasure it was "to help lame dogs over styles." *Pace* Mrs. Saxby we must remind her that Sherlock Holmes sometimes did this also.

A Doctor's Table Talk. By JAMES GREGORY MUMFORD, M.D. London: Constable and Co., Limited; Boston and New York: Houghton, Mifflin and Co. 1912. Pp. 257. Price 5*s.* net.—This little book is a collection of essays somewhat after the style of "Confessio Medici" or "The Corner of Harley Street"—not that these two books have much in common. In it Dr. Mumford gives us his views, and presumably those of his intimate friends, on such subjects as the doctor's habitat, doctor and patients, some doctors and their troubles, women, socialism, and the reasons for and against a young man entering the medical profession. His country practitioner, Dr. Primrose, is a charming old man who talks sound sense. Some of his remarks are as applicable to this country as they are to the United States. For instance, says Primrose: "Only after Virchow, Pasteur, Koch, and a few others showed us the nature of disease did we begin confidently to plant our feet on firm ground. But the public don't understand all that. They are looking always for immediate results. They persist in thinking that medicine is an exact science, as much as algebra, and we cannot make them see that it must be compared rather with farming or gardening. Now we have come out in the open and are trying to tell the public what we are doing and attempting. They cannot or will not understand us." The chapters on doctor and patient are full of good advice, while the chapter on doctors and their troubles will be endorsed by many of us. The final chapter of the book, a letter from Scriba to his son Thomas, although it contains nothing new, might be studied with advantage by any young man thinking of entering the medical profession, and it concludes with a fine panegyric: "The doctor is always present. From the cradle to the grave he is in demand. For him who has eyes to see and an understanding heart the physician's calling is one of endless diversion, of constant interest, of broadening content." A very pleasant little book.

LITERARY INTELLIGENCE.—Messrs. Longmans announce a book by Mr. W. McConnel Wanklyn on "London Public Health Administration," which is intended specially for the use of foreign visitors and others who are unfamiliar with but interested in the subject. It is designed to answer two classes of questions: first, By what authority is any given health service carried on? and secondly, What is the nature and position of that authority? A table of public health statutes and an index complete the volume.

THE BRITISH MEDICAL ASSOCIATION.

EIGHTY-FIRST ANNUAL MEETING AT BRIGHTON.

THE third visit of the British Medical Association to Brighton is now over, and in reviewing the social and scientific events of the week it becomes clear that the meeting has been a pronounced success. As for the medico-political side of the gathering, the Representative Body had before it a heavy programme, and spent a long time thereon; but matters of great importance had to be considered, and it is at least satisfactory that decisions were reached upon some of the most pressing of these.

A feature of the Brighton meeting has been the close attention paid by the lay press—and therefore presumably by the general public—to the work of certain of the scientific sections. This is not very surprising in the case of the Section of Medical Sociology, which had asked prominent laymen to attend and take part in its discussions on eugenics, on crime and punishment, and on the hospital question. But considerable popular interest was also bestowed upon the papers and speeches in the Section of Climatology and Balneology, and upon those in the Sections of State Medicine and of Naval and Military Medicine. Apart from the week's official programme, a meeting was held on July 25th by the State Medical Service Association, under the chairmanship of Professor Benjamin Moore. This was attended by Mr. Bernard Shaw, whose presence, however, had not been publicly announced beforehand. His delightful, if not in all respects convincing, speech was therefore enjoyed by a slender audience.

On Wednesday evening, July 23rd, the Mayor and Mayoress of Brighton (Alderman and Mrs. Thomas-Stanford) entertained a very large party to a soirée and dance at the Royal Pavilion. Fortunately, the weather, which had been dull and threatening at the beginning of the week, improved greatly in time for the garden party given on Thursday, July 24th, by the Mayor and Mayoress of Hove (Alderman and Mrs. Barnett Marks) at St. Ann's Well Gardens. On the same evening the annual dinner of the British Medical Association was held at the Hove Town-hall, and a fireworks display was given on the Brunswick Lawns. On Friday, July 25th, a successful garden party was given at Sylvan Hall, Upper Lewes-road, by Dr. and Mrs. F. R. Holmes Meyrick, and in the evening a reception was provided by the President and the Local Executive Committee at the Hove Town-hall, which was attended by a large company. On Wednesday, Thursday, and Friday the President of the Association, Dr. W. Ainslie Hollis, entertained parties of medical men to luncheon at the Royal Albion Hotel.

The week's social programme, in addition to the events already chronicled, included informal visits to various local institutions and private entertainments of many kinds. A large number of visitors played golf on the neighbouring courses; and on Thursday, July 24th, the Ulster Cup was competed for at the East Brighton Golf Club, Kemp Town. Owing to the Horsham cricket week there was no county cricket at Brighton during the meeting, but cricket enthusiasts were able on Saturday, July 26th, to take part in a match between the "Medicos" and Brighton College. On the last two days of the week there were a number of excursions to places of interest outside Brighton. Large parties travelled to Lewes and to Shoreham and Lancing on Friday, while on Saturday excursions were made to Portsmouth, Tunbridge Wells, Worthing, Eastbourne, and Boulogne, and the company which travelled to Chichester were shown over the new potted meat works of Messrs. Shippam and entertained at lunch by that firm.

The chief element in the Pathological Museum was a large series of specimens which had been for many years in the museum of the Sussex County Hospital, and which were last year presented to the Royal College of Surgeons of England; the series included many specimens of great interest. One of the most striking was a specimen exhibiting numerous psorospermal cysts of the ureter. A number of specimens from the museum of Westminster Hospital were shown, and these included several specimens of chloroma. Dr. Preston King showed some casts demonstrating the differences between the various forms of chronic arthritis. A large number of very excellent skiagrams were shown; these were exhibited by Dr. C. F. Bailey, by Mr. S. Gilbert Scott, and by Mr. W. B. Prowse. Some very good microphotographs by Mr. D. E. Caush, from sections prepared by Mr. George Morgan, deserve mention. Mr. Wade showed a large number of sections of the prostate which could be used as lantern slides and were employed to illustrate his paper in the Surgical Section; they were actual sections of the gland and were not photographs.

The National Temperance League's annual breakfast was held in the Banqueting Room of the Royal Pavilion on July 24th, and was largely attended. The chairman, Dr. W. Ainslie Hollis, after welcoming the guests, drew attention to the change which had gradually taken place during the past 30 or 40 years in the attitude of medicine and surgery towards alcohol. Dr. Mary Scharlieb followed with an impressive speech on the responsibility of the medical profession with regard to temperance in child-bearing women, upon the health of whose bodies and upon the integrity of whose moral and spiritual nature depended not only the welfare of their children and their homes, but the still larger and more serious extension of the family which was known as the nation. Dr. Scharlieb maintained that the most serious and the most regrettable effects of alcohol were to be found amongst the women of the land. It was said that the increase of the drinking habit among women had far outstripped the increase amongst men, and on no class of women did the penalty for excessive use of alcohol fall with such disastrous effect as on those of child-bearing age. The evil effects of alcohol on child-bearing women fell not only on them but on their children. Knowing what they all knew, ought not the medical profession to use their undoubted great influence over the child-bearing women of the country to induce them to take those things that were profitable for them, and to abstain from such a thing as alcohol, which could not but be deleterious? Medical practitioners should make it their special duty to protect young women from the evil advice of foolish mothers and grandmothers, and other Sairey Gamps of that sort who might suggest a little drop of brandy. There was but small hope of adequately teaching a life of temperance, prudence, and thrift to grown-up women who had already formed habits of intemperance, but inasmuch as the great majority of young people under 18 or 20 years of age did not drink, much might be done by careful instruction both in schools and public lectures to point out the great advantage of sobriety. In this respect, as in most others, the positive command "Thou shalt" was found to have a greater effect than the negative decree "Thou shalt not." All the influences which set before the young the beauty of temperance and its happy results in healthy bodies and

sane minds far outweighed the terrors of the police court and discourses on the miserable results of intemperance. Medical practitioners had an appreciable share in influencing the young: they could help the children of the nation by personal example and by their teaching, direct and, still more, indirect. It was not a misfortune but a fault if their influence, which ought to be so potent for good, was withheld or was perverted. But in order that they should exert this beneficent influence they must be fully persuaded in their own minds, they must realise for themselves, the advantages and the necessity for temperance. Mr. John Turner Rae, secretary of the League, mentioned that this was the forty-third breakfast held in connexion with the British Medical Association. Dr. Arthur Newsholme, in moving a vote of thanks to Dr. Scharlieb and the chairman, said that the medical views of one decade were the popular views of the next decade, and to that fact he attributed the influence of drink in the past. It was for them to show now that alcohol was not necessary or even suitable for ordinary dietetic purposes, and that mankind was better without it. He was certain that in a few more years that would show itself in the national statistics of infant mortality. Dr. Murray Leslie, who seconded, said that the aspect of temperance brought before them by Dr. Scharlieb was one of the greatest importance, and he hoped the lessons would be carefully borne in mind from an economic point of view. Finally, Mr. Robert Whyte, jun., chairman of the executive of the League, said how greatly the members valued the magnificent service which the medical profession to-day was rendering to the true cause of temperance.

In conclusion, it is our pleasant duty to acknowledge the courtesy and hospitality extended by the Brighton Division to THE LANCET, and to thank the executive of the British Medical Association and the Representative Body for again allowing a member of our staff to attend and report the proceedings at the annual representative meeting.

THE SECTIONS.

MEDICINE.

WEDNESDAY, JULY 23RD.

President, Dr. E. HOBHOUSE (Hove).

The proceedings opened with a brief address of welcome by the PRESIDENT, who then called on the opener of the discussion on

Non-Diabetic Glycosuria.

Dr. A. E. GARROD (London) pointed out that diabetes must not be regarded as a single disease, but rather as a symptom-complex. After considering the pathological and clinical classification of glycosurias, he concluded that from a pathological standpoint most glycosuria was diabetic. On the clinical side there were recognised false glycosuria, lactosuria, lævulosuria, and pentosuria. Then there was the so-called renal diabetes with characteristic features and uncertain prognosis which was probably less rare than had been supposed, but a truly non-diabetic glycosuria. Temporary glycosuria was considered, both true and apparent; the glucose test and its clinical importance; and alimentary glycosuria *ex amylo*. He then proceeded to discuss the question of recovery and the difficulty of being sure that such was permanent. There were, further, symptomatic glycosurias associated with infective maladies or with diseases of the ductless glands such as the thyroid, pituitary, and suprarenal, and further, those connected with intestinal disorders, deranged function of the pancreas, cerebral lesions, including puncture diabetes and its allies, and toxic glycosuria. In conclusion, Dr. Garrod dwelt on the importance of glycosuria as a symptom and the need of further investigations, especially in cases of temporary glycosuria, and described the difficulties of such investigations.

Dr. ROBERT HUTCHISON (London) said that great care should be exercised in discriminating the basis of glycosuria in view of its probable course and issue; this was especially the case with transient diabetes, which was probably dependent on a special cause. Many were probably of nervous origin, and analogous to puncture diabetes. One could not give an opinion without careful watching as to whether cases of glycosuria discovered during examination for life insurance would or would not become clinically diabetics. 20 per cent. had been found to pass into permanent glycosuria. A hard-and-fast line could not be drawn between "gouty glycosuria" and the more severe types. The term diabetes was a clinical, not a pathological one, and it was important to get at the cause in each case. The condition was dependent not on one morbid condition but on many.

Dr. W. ALDREN TURNER (London), speaking of insurance cases in which glycosuria was found, said they could be divided into several classes: (1) Transitory, following overwork, influenza, and other conditions; (2) those presenting a personal or family history of gout; (3) those associated with dietetic indiscretion or excessive use of alcohol; and (4) those with a family history of diabetes. It was extremely difficult to distinguish between the transitory and intermittent types, and the latter might develop into permanent glycosuria.

Dr. P. J. CAMMIDGE (London) said that modern research tended to show that glycosuria of any type was due to metabolic disturbance, all forms being related. He argued that systematic treatment in the early stages before secondary metabolic disturbance occurred offered the best chance of relief and cure. The fact should not be lost sight of that many so-called diabetic foods contained large amounts of starch. The question of cooking was of paramount importance in the proper treatment of glycosuria. An excess of protein food was often taken, accompanied by too little fat, because the latter was not presented in an appetising form. Attention to matters of general hygiene were essential, and on the whole drugs must be regarded as inefficient. The important points in dieting were (1) the adjustment of the dietary to the carbohydrate tolerance; (2) the regulation of quantity, which was often excessive; (3) adaptation to the needs and tastes of the patient; and (4) perseverance. Charts were exhibited showing the effects of diet on the sugar output and the toleration to certain forms of carbohydrate.

Dr. J. F. GORDON DILL (Hove) stated his conviction that some cases of glycosuria were directly connected with gout, and cited instances where much gravel was passed, either before or alternating with spells of glycosuria, usually in middle-aged patients. In such a case he had known pulmonary consumption develop in a glycosuric period and subside in a subsequent uric acid one. The existence of glycosuria, even in a mild degree, was a very serious danger, exposing the sufferer to undue risk in any attack of acute disease. He recommended the primary treatment of gout in a case in which the two conditions were combined.

Dr. W. ESSEX WYNTER (London) agreed that, on scientific grounds, no hard-and-fast line could be drawn between diabetes and glycosuria, but the effects on the patient were very different. General symptoms, such as hunger, thirst, wasting, and polyuria, were not marked in glycosuria, nor were the knee-jerks absent. Acetone and diacetic acid did not occur in the urine. A consideration of these points was of great importance in framing a prognosis and directing treatment. Drugs were disappointing, but he had seen reduction in sugar in a severe case follow the administration of trypsogen. An important complication associated with mild and often intermittent glycosuria was the occurrence of gangrene, the two conditions being constantly associated, though the glycosuria was not always discovered till the gangrene occurred. The reduction of sugar excretion by diet and drugs was then essential to recovery, whether operation was needed or not.

Dr. E. W. BLACKBURN (Barnsley) considered that some glycosuria cases could readily be differentiated from diabetics. They commonly included stout persons who did not masticate properly and ate largely, especially of fancy dishes. Two cases of the kind had come under his observation and survived 25 years—one dying from cancer of the prostate and the other from uræmia. Such cases treated as diabetics were alarmed and harmed.

The PRESIDENT had seen two serious cases follow influenza. He wished to know Dr. Garrod's view as to severity of cases following febrile diseases. It had been stated that senile gouty cases terminated in coma; this was not his experience.

Dr. GARROD in replying admitted that the cases quoted by Dr. Blackburn were common enough. They lived for years. Nevertheless, he held that these and the more acute cases represented merely degrees of the same condition. The termination of long-standing cases was by coma often preceded by pneumonia. Acute fevers were often associated with glycosuria which might be the starting point of grave diabetes. Chronic pancreatitis might be included amongst other forms of fibrositis attributed to gout and producing glycosuria. It was a common mistake to suppose that gouty people secreted more uric acid than others. The fact of the matter was they secreted less, and retained more in the system. Insurance company's statistics in regard to the subject were not to be depended on owing to lack of discrimination. There was a tendency now to regard too lightly those cases in which careful dieting caused disappearance of the glycosuria.

THURSDAY, JULY 24TH.

Fibrositis and Muscular Rheumatism.

Dr. A. P. LUFF (London), in opening a discussion upon this subject, said that the pathological change was essentially an inflammatory hyperplasia of the white fibrous tissue, associated with exudation and proliferation of the connective tissue elements. He mentioned the principal structures affected and the peculiar indurations which occurred in them. He favoured the idea of toxic causation and regarded microbic infection as probably a rare occurrence. Reference was made to the work of Goadby and Ware. In connexion with etiology the speaker enumerated cold, damp, and wet, extremes of heat and cold, local injuries, absorption of irritating toxins from the alimentary tract, toxic or microbic infection from oral sepsis, tonsillitis, pharyngitis, influenza, febricula, &c. Fibrositis presented itself in various forms, such as muscular rheumatism, rheumatism of the abdominal muscles simulating the pain of appendicitis, renal colic, biliary colic, &c.; fibrositis of the retrocolic and temporal muscles (a common form of headache); lumbago; Dupuytren's contraction; fibrositis of the plantar fascia and painful sole and heel; fibrositis of bursæ, joints, and of the subcutaneous tissue; chronic villous synovitis. Treatment consists of rest and limited use of the salicylates. Potassium iodide was the most valuable drug. Fibrolysin had limited advantages and certain drawbacks. Various external applications were advocated, including leeching. Amongst the most effective remedies were heat and ionisation, or heat and the static wave current, but massage and exercises or spa treatment were often employed with advantage. Proper regulation of diet and suitable underclothing were important considerations both in cure and prophylaxis.

Dr. F. H. HUMPHRIS (London) advocated the employment of radiant light and heat in the treatment of fibrositis. The effects produced were dilatation of cutaneous vessels, with relief of stasis and the generation of heat in the deep structures. The static wave current was useful rather through mechanical than electrical effects resulting in tissue contraction.

Dr. ALEXANDER MORISON (London) said this common affection was disabling rather than dangerous. He did not regard it as infective, and would not include the allied state occurring in gonorrhœa or influenza, but rather due to nutritional and metabolic disturbance, often associated with gastro-intestinal derangement, and always afebrile. It was best dealt with by balneological treatment, heat and massage short of increasing pain. The internal organs were usually sound.

Dr. GEORGE PARKER (Bristol) said that one disorder and another were gradually being split off from the rheumatic group. Now fibrositis was separated. It was a question whether the disorder was due to organisms or their toxins. Brachial neuritis was really fibrositis attended by painful nodules; many sufferers from this complaint could only sleep with the arm flexed behind the head so as to relieve tension on the nerve trunks. For a remedy he usually employed heat and rubbing with menthol and salicylate liniment.

Dr. C. F. BAILEY (Brighton) advocated the use of radiant heat followed by iodine ionisation. Dry heat could be borne in an intense degree—400° F. for 20 minutes. The ionisation should be carried out with excess of iodine in the fluid, otherwise hydroxyl ions were generated which were very caustic. He employed a current of 30–50 milliampères. For heating he used a 500 candle power lamp carrying 12 ampère current. Improvement occurred after four or five exposures and recovery was complete after eight or nine. The ionisation ensured the full local dose of iodine.

Dr. W. M. CROFTON (Dublin) referred to the effect of cold in lowering tissue resistance and so encouraging the development of micro-organisms, various forms being met with which were probably derived by auto-infection from the usual sources. There was also the possibility of microbic toxins, abnormal intestinal products or excess of uric acid being causative agents. Uric acid interfered with the effective action of salicylates, and he was accustomed to employ citrate of soda as a corrective in such cases. He preferred the organic compounds of iodine as being less toxic than iodide of potassium.

Dr. PRESTON KING (Bath) spoke of the difficulty in distinguishing between fibrositis and rheumatoid arthritis in early stages by local manifestations. Both conditions might be present in the same subject, indicated by fine and coarse crackling in the joints. Such cases had been treated for centuries by Bath waters, though they came under various titles. No doubt the radio-activity which had been demonstrated was an important factor in promoting recovery. He never permitted massage when it caused pain in the joints. Heat and ionisation were good. Fibrolysin had appeared useful for a time like many new drugs.

Dr. MARION GILCHRIST (Glasgow), speaking of fibrositis of abdominal muscles, cited a case of many years' standing which had been ultimately cured—the presence of supposed organic disease being subsequently excluded by necropsy. In this case firm massage was employed though it caused pain, but nothing but good resulted. When pain was caused massage could be tolerated in combination with electricity and ionisation. In stout people benefit resulted from reduction of bulk by diet and administration of thyroid extract. It appeared more reasonable to correct intestinal indigestion than to employ vaccines to counteract its effects.

Dr. W. LANGDON BROWN (London) said the present discussion had exploded the belief in gout as a cause and flannel as a cure of fibrositis. Nodules, whose histology had been demonstrated by Dr. Brockman, were not only a feature of fibrositis in the limbs, but had been found in the heart and were probably a cause of "heart-block." Such nodules could be cleared up by injecting first with novocaine and then with 10 minims of 90 per cent. alcohol.

Dr. A. A. WARDEN (Paris) spoke of the efficacy of what was known as Guelper's method in these cases. It consisted in starvation and purgation. On the first day a bottle of Hunyadi water was given hot and quickly (within 20 minutes) on an empty stomach, and this was repeated on the second and third day. Only thin soup and tea were allowed. The purge acted painlessly in the absence of food, and the results were remarkable.

Dr. LUFF, in reply, said there were various causes for fibrositis, but it ultimately depended on toxæmia—local conditions, such as cold and strain determined the time and situation of the attack by lowering resistance. He noted with satisfaction the statement that resistance to light penetration in the deeper parts resulted in heat production. Acute rheumatism might produce fibrositis, but he did not consider that uric acid was a factor. The complaint did not occur specially in leukæmia which was associated with the greatest excess of uric acid, and the administration of uric acid failed to produce it. Speaking of ionisation, caustic effects were due to the alkali and not to the iodine; they could be prevented by administering potassium iodide internally immediately before ionisation was carried out. Arthritis could be distinguished from the creaking of fibrositis by coarser vibrations due to destruction of cartilage. It was in connexion with joints that he considered massage inadvisable when it caused pain. Salicylates relieved pain, but were not curative. The use of lithium iodide was commended, not for its antigouty effect, but because the hydrate of lithium was less caustic than that of potassium or sodium. He had discontinued the use of fibrolysin on account of such undesirable by-effects as pain, pyrexia, rashes, and even rigors. Immediate but temporary relief was afforded by morphine or by heat from an incandescent

lamp combined with static electricity. True neuritis could be distinguished from fibrositis of the nerve sheath by the occurrence of tingling and numbness.

FRIDAY, JULY 25TH.

Dr. MURDOCH MACKINNON (London) contributed a valuable paper on

Arterial Pressure in Thoracic Aneurysm,

based on sphygmomanometer readings in 40 cases. No comparison could at present be made between the number hitherto prevailing and such as might develop after modern methods of treatment, particularly salvarsan, but there was an apparent increase in the last ten years, 1902–1911, over the previous ten, 1892–1901, judging by admissions to the Seamen's Hospital, where a great number were received, the numbers being 53 for the earlier decade and 86 for the later. This probably represented greater accuracy of diagnosis due to the employment of X rays. Experience and the application of Wassermann's reaction showed that no trust could be put in the individual's statements as regards syphilis. This might be partly due to the trifling nature of the primary and secondary manifestations; and it would even appear that those cases in which such manifestations were so slight as to almost pass unnoticed were the more subject in later years to grave parasyphilitic disorders, including aneurysm, possibly owing to the absence or inadequacy of treatment. Sphygmomanometer readings were taken under uniform conditions as regards time of day, position of patient, instrument, and observer. Readings were made from both arms, and in many cases daily. The blood pressure on admission was invariably found to be several millimetres higher than on succeeding days, the sudden fall of pressure being, no doubt, due to the rest in bed. The average in 32 of the 40 cases was found to be below 150 millimetres of mercury, and in only 2 did the pressure exceed 200 millimetres. The presence of arteriosclerosis, while not materially affecting the height of the blood pressure, played a very important part in its variability and as a cause of the difference on the two sides. The average age of the 40 cases under consideration was slightly under 50 years, and the average blood pressure in the majority was under 150 mm. of mercury. So it may be concluded that the blood pressure in the vast majority of aneurysms is about normal. The symptoms complained of by the patients—dyspnœa, cough, and pain—were much more severe on admission, when as a rule the pressure was high, and during the course of treatment if from any cause the pressure was raised. In such cases the lowering of blood pressure, whether by means of drugs or by venesection, gave instant relief. This was in accord with the statements of other observers and with the general lines of treatment. Daily variations of pressure were a constant feature, especially in the cases with well-marked arteriosclerosis. It would even vary from hour to hour and in the space of a few minutes while the pressure was being recorded. A difference of 5 or even 10 mm. of mercury when comparing the two arms was of no practical importance, being apparently due to nervousness, and disappearing after the first examination. In other cases a difference on the two sides of from 5 to 10 mm. of mercury persisted, and was not uncommon with dilatation of the aorta and arteriosclerosis. The greater this difference, the more likely was the case to be one of aneurysm. From post-mortem findings it appeared that these constant differences in pressure on the two sides went with formation of clot in the aneurysm, being lacking when no such clotting occurred. There was little or no correspondence between records taken by the instrument and those obtained by the finger, whether in estimating the general pressure or in comparing the two sides, and the tactile impressions must be considered of little or no value. Of the 40 cases observed, 26 (65 per cent.) showed a distinct and constant difference of pressure on the two sides, while 14 had equal pressure. The difference amounted to 5–15 mm. mercury, and the lesser reading was on the side of the aneurysm. A further point of diagnostic importance was that in cases with unequal pressures on the two sides, the pupil on the side of lower pressure was the larger. This was in accord with the researches of Dr. R. C. B. Wall and Dr. E. W. Ainley Walker, who found that the inequality of the pupils in aneurysm was due to inequality of pressure in the ophthalmic arteries. In regard to treatment, it was very striking how quickly after rest in bed and before the employment of any medicinal remedies the patient's symptoms were relieved concurrently with the fall of blood pressure. It was the almost invariable practice to administer potassium iodide in gradually increasing doses, but in none of the 40 cases examined could any decrease in the blood pressure be attributed to the iodide. From these observations and the experiments of Stockman and Charteris it must be concluded that the iodides given by the mouth in ordinary doses have no depressing effect on the action of the heart or on the blood pressure in the arteries, and that their beneficial effect must be due to other causes, such as their antisyphilitic properties. The same must be said of the injection of sterilised solution of gelatine, which was unattended with any lowering of pressure. The following conclusions were arrived at: 1. The blood pressure in aneurysm was usually about normal. 2. In about 65 per cent. of cases there was a difference in the pressure in the two arms. In 30 per cent. of cases this difference was very marked, and a valuable aid to diagnosis. 3. Reduction of the blood pressure afforded great relief to the patient and helped towards the cure. 4. Potassium iodide did not reduce blood pressure in aneurysms, but was of great value in the relief of pain. 5. The lower the pressure, provided the pulse was regular and of normal rate, the better the prognosis.

Dr. WALTER BROADBENT (Brighton) read a paper on

The Heart as Affected by the Stomach.

He prefaced his observations by quoting a frequent saying of his father, Sir William Broadbent: "Whenever a patient comes complaining of heart trouble, never omit to carefully examine the stomach." Both heart and stomach derived their nerve-supply from the vagus and sympathetic. Among the sympathetic fibres were the augmentor nerves, through which stimulation of the cervical sympathetic caused marked acceleration of the heart beat. The vagus fibres were inhibitory, slowing the heart when stimulated. These were constantly in action restraining the augmentor fibres, since, if in a dog the vagi were divided or their nerve endings paralysed by atropine, the heart beat very rapidly from the normal and unrestrained action of the augmentor fibres. Anatomically the heart was also in close relationship with the stomach, the ventricles and right auricle only being separated from it by the diaphragm. If the stomach were distended and forced the diaphragm upward there must ensue pressure on the heart. The heart was at great disadvantage in contending with pressure from without, which hindered diastolic expansion, and this was mainly a passive relaxation of the cardiac muscle with no active expansile power behind it. The filling of the right auricle was due to venous pressure, at no time powerful, and the right ventricle was dependent for its charge of blood on the contraction of the comparatively weak-walled auricle. If the heart muscle were affected by cloudy swelling, myocarditis, fibroid or fatty degeneration, or adhesion of the pericardium, the deleterious effects of such pressure would be much greater. Owing to its thinner wall the right ventricle would suffer more than the left, and its incomplete distension would reduce the supply of blood throughout the heart. A third way in which the stomach might affect the heart was by faulty digestion and the production of fermentation products which might act on the cardiac nerves like atropine did. One or all of these three factors—reflex nervous effects, direct pressure, and gastric toxin—might be in action at the same time. Fainting or sudden death after a severe blow over the stomach was attributed by Michael Foster to reflex inhibition of the heart, and it was well known to surgeons that operations on the upper part of the abdomen were more liable to produce shock than those carried out lower down, while the Fowler raised position after operations for peritonitis probably owed its success to the removal of irritating fluids from the region of the peritoneum supplied by the vagus; and the unexpected deaths occurring a few days after gastrostomy for malignant stricture of the œsophagus were perhaps due to vagus reflex effects on the heart weakened by starvation. The most frequent reflex effect was palpitation, either immediately after a meal or during the night; the former was instantly relieved by eructation of gas, which might be encouraged by a dose of sal volatile, and the latter by emptying the stomach by massage or actual lavage before sleeping. In either

case distension of the organ was recognisable by percussion or succussion. Paroxysmal tachycardia also depended frequently on gastric disorder. Mackenzie had pointed out that in palpitation the rhythm of the heart was normal, though hurried, whereas in paroxysmal tachycardia the nodal rhythm occurred, the pulse being irregular and a ventricular wave only being apparent. A case in support of this contention was quoted which was immediately relieved by liq. pepsin. c. bismuth. et nuc. vom. Intermittency of the pulse was often associated with stomach disorder, the commonest type being that due to extrasystoles, whose pulse wave did not reach the wrist. An instance of this temporary condition induced by imprudence in diet was cited, in which the phenomenon and dilated stomach subsided in a few days on treatment directed solely to the gastric disorder. Pseudo angina pectoris with pain spreading down the arm was a fourth manifestation usually attributable to flatulent distension of the stomach. It came on an hour after meals or during the night and not with exertion as a rule. In most cases the heart did not appear sufficiently diseased for true angina, and with suitable treatment of the digestive organs the attacks ceased to occur. A very striking example of this form of cardiac distress was described in which recovery immediately followed on the adoption of strict milk diet. It should not be forgotten, however, that true angina might be brought on by stomach over-distension, and subjects of valvular disease suffered acute distress, sometimes ending fatally, through this cause of embarrassment of the heart's action. Fatty degeneration of the heart rendered patients peculiarly liable to distress and danger to life from stomach disturbance, and the management of digestion was quite as important as treatment of the heart.

Dr. PRESTON KING read a paper on

Differentiation in Chronic Joint Affections.

The present nomenclature of chronic arthritis, he said, was most unsatisfactory. The disease which was at present known as rheumatoid arthritis was called by so many names and included so many really different forms of ill-health in which the only common connecting link was that in each there was some joint trouble that it was not surprising if confusion and misunderstanding occurred when it was discussed. Rheumatoid arthritis was a poly-articular affection with marked debility, occurring mostly among women in earlier life, in which the joint trouble was often quite overshadowed by the more important general constitutional symptoms. It should be differentiated from the osteo-arthritis of later life, in which the joint condition formed the most important feature. The use of X rays in differentiating between these cases of chronic arthritis was disappointing. It showed little more in osteo-arthritis than could be either seen or felt, and the greater translucency of the bones which was said to occur in rheumatoid arthritis did not accord with his (the speaker's) experience. There were so many variable factors in the production of an X ray photograph that evidence of extra-translucency had to be taken with caution. Osteo-arthritis and rheumatoid arthritis were not to be looked upon as separate diseases. It was a question whether either of these should be regarded as a disease at all. A distinct disease should have a specific cause, which produced results which were fairly constant. No one specific cause had been shown for either and in each the symptoms varied with the nature of the evil. Both osteo-arthritis and rheumatoid arthritis were often the result of many and quite different infections. These were easier to trace in rheumatoid arthritis than in osteo-arthritis, and it was also easier and more hopeful to treat with vaccines the former than the latter. Among the sources of infection pyorrhœa alveolaris, leucorrhœa, and gonorrhœa were the most common. In differentiating in chronic arthritis, and in suggesting a better nomenclature, it would be well if the term "infective arthritis" were adopted to distinguish these cases from the rest. It was in the infective case that the involvement of the temporo-maxillary joint and spondylitis deformans were chiefly seen, and there is that group to which he wished to keep the name rheumatoid arthritis. In osteo-arthritis spondylitis deformans was often present, but not in association with an affection of the temporo-maxillary joint, and in a much more chronic and quiet form. Plaster casts were shown to illustrate points in the differentiation of chronic arthritis.

SURGERY.

WEDNESDAY, JULY 23RD.

President, Mr. W. THELWALL THOMAS (Liverpool).

Mr. G. H. MAKINS (London) opened a discussion on

The Diagnosis and Treatment of Primary Carcinoma of the Stomach.

He said that though the first operation for the removal of a malignant growth of the stomach had been performed more than 30 years ago, he considered that it had not gained the popularity it deserved, in spite of the fact that it had been much advocated by some surgeons. Carcinoma of the stomach was very common—in fact, it constituted 21 per cent. of all cases of carcinoma, yet malignant disease of the bowel was more frequently operated on than was cancer of the stomach. There were different reasons for this. In the first place, the diagnosis of cancer of the stomach at an early stage was very difficult; and, in the second place, the general practitioner did not recognise how successful the operation for removal of gastric growths was; and he felt that an obstruction of the intestine must be relieved and colotomy was a very successful operation and was easily performed. An operation for cancer of the stomach was the more likely to be successful the earlier the operation was performed, but at this early stage the diagnosis was extremely difficult. There were no characteristic symptoms, though a very sudden onset might be suggestive. Test meals might be of some value, but the information obtained was by no means conclusive. The absence of free hydrochloric acid was sometimes striking, but very little weight could be laid on that, and it appeared to be certain that the situation of a lesion in the stomach had more influence on this sign than had the nature of the lesion. Skiagraphy was useful, but it gave little information in the early stages; it could distinguish between a tumour of the stomach and one of the colon, and it could also show clearly the existence of a gastro-colic fistula. An exploratory incision was made for two purposes; one purpose was to diagnose. This operation was generally almost free from danger, but an exploratory incision might be performed to see whether a growth was removable. In such a case there was definitely some danger. It must not be forgotten that even when an exploratory incision had been made it was not always possible to diagnose between an inflammatory mass and a tumour. When a diagnosis of cancer of the stomach had been made, the treatment to be adopted must depend on the position and extent of the growth. Growths situated in the cardiac region offered no inducement for operation; those in the body of the organ might be suitable for gastrectomy, but the growths involving the pylorus were best suited for operation; and as these formed some 60 per cent. of the whole number of cancers of the stomach he would chiefly consider these cases. When the growth extended along the lesser curvature the case was of the more unfavourable kind. The extent of the lymphatic invasion did not depend on the size of the primary growth or the length of the history of symptoms. The obvious involvement of the glands did to a certain extent render the prognosis unfavourable, but slight glandular affection need not deter the surgeon from attempting removal. In about 5 per cent. of the cases the growth had extended into the duodenum, and it was not rare for the growth to involve the transverse colon and transverse meso-colon. These cases might be dealt with, but necessarily the operation was prolonged. On the whole, if the pancreas was involved it was better not to operate, but this rule was not absolute. The main contraindications to operation were visible metastases, ascites, and involvement of the abdominal wall. As to the method of operation, some modification of Billroth's pylorectomy seemed to be the best operation, and as a rule about a hand's breadth of the stomach at the cardiac end should be quite free from disease. Some ingenious operations had been performed, and a recently introduced operation seemed to be very good; in this the upper end of the duodenum was closed, and the jejunum was united to the cut surface of the stomach, thus doing away with the necessity for a posterior gastro-jejunostomy. He found it difficult to express numerically the results after operations for the removal of malignant disease of the stomach, but he was inclined to think that from 15 to 20 per cent. might represent the average mortality. The

duration of life after the operation varied greatly, but it was certain that in a number of cases there was no return of the disease, even after several years.

Mr. E. W. HEY GROVES (Bristol) thought that much valuable time might be lost by the many diagnostic methods which had been put forward for the recognition of malignant disease of the stomach. One difficulty in diagnosis arose from the fact that in some 50 per cent. of the cases cancer was preceded by some inflammatory condition. In any doubtful case an exploratory incision was required, but even after the abdomen was opened it might be impossible to be quite sure. At one time he considered that the presence of a metastatic growth was conclusive evidence of a malignant growth, but he had seen a case in which there were two very definite nodules in the liver, and yet though no operation for removal was done, the patient had recovered and was still well. In all cases he was in favour of removal of the great omentum, for it was not at all rare for the growth to extend into it.

Dr. T. K. DALZIEL (Glasgow) held that a certain diagnosis was quite impossible in an early stage, and when the diagnosis was certain it was generally too late. He was inclined in all cases to remove as much of the stomach as possible, but it was necessary to leave a portion of the cardiac end as wide as a finger. Fear of sepsis in these operations could be put aside, but it was essential that there should be no tension.

Mr. R. F. JOWERS (Brighton) laid stress on the difficulty of deciding on the malignancy of a mass in the stomach.

Mr. A. H. BUCK (Brighton) considered that there were many very doubtful cases even after the abdomen had been opened. He was strongly in favour of early exploratory operations. He believed that even very extensive operations on the stomach were very safe if the patient were in good condition.

Mr. D. P. D. WILKIE (Edinburgh) drew attention to the risk of leaking when the cut end of the duodenum was closed; and a series of experiments had led him to the conclusion that this was due to interference with the superior duodenal artery.

Mr. W. MCADAM ECCLES (London) urged that an exploratory operation was needed even before any tumour could be felt, and he was in favour of incising the stomach to examine the mucous membrane when the diagnosis was in doubt.

Mr. H. B. ROBINSON (London) was in favour of opening the abdomen whenever there was any difficulty in diagnosis, but this was not always sufficient to clear it up.

The PRESIDENT considered that the hydrochloric acid test was absolutely useless, and he related a case which appeared to be malignant by all the usual tests, the glands being affected also, but the patient recovered and remained well, even though the growth was not removed. He thought that the public was realising that many cases of indigestion were surgical. The best treatment of a gastric ulcer was excision.

Mr. MAKINS, in reply, said that he was opposed to making an incision into a stomach merely for diagnostic purposes.

Mr. WILKIE read a paper on

Experimental Observations on the Cause of Death in Acute Intestinal Obstruction.

Dealing first with simple obstruction of the intestinal lumen, he showed that when the occlusion was situated high up in the small intestine in the region where secretion was very active the great loss of fluid by vomiting accounted in great measure for the symptoms; when, on the other hand, the occlusion was low down in the small intestine the copious secretions of the upper reaches were reabsorbed and symptoms were consequently delayed. He had found that the content of obstructed intestine was not acutely toxic when absorbed through the intestinal mucosa, and that toxic absorption could not account for the symptoms of acute ileus. Where the intestine was strangulated and infarction of its wall took place his researches indicated that the acute symptoms and early fatal issue were due mainly to shock and splanchnic paresis, and but slightly, if at all, to absorption of poisonous products from the strangulated loop. The practical conclusions drawn were: (1) That the surgery of intestinal obstruction should be as conservative as possible and that only on imperative indications should the lumen of the bowel be opened, the danger of peritonitis being greater than that of absorptive toxæmia; and (2) that in all forms of intestinal obstruction great improvement follows copious subcutaneous infusions of saline and dextrose solutions.

Dr. A. A. WARDEN (Paris) read a paper on

Radium and Inoperable Cancer.

He showed from cases which he had treated that it was worth while to employ radium in all cases which were not operable or in which the patients refused operation. He held that some cases of cancer were really curable by radium, for in several under his care no recurrence had occurred even after some years.

THURSDAY, JULY 24TH.

Mr. A. M. MARTIN (Newcastle-on-Tyne) opened a discussion on

The Diagnosis and Treatment of Injuries of the Knee-joint other than Fractures and Dislocations.

He stated that he did not intend to include perforating wounds of the joint. He drew attention to the anatomy of the knee, pointing out that it was not simply a hinge-joint, for at the end of extension there was rotation due to the length of the inner condyle; and, again, the flexed knee was capable of rotation. If when the knee was in the flexed position excessive rotation should occur the internal semilunar fibrocartilage might be dragged towards the middle of the joint, and so it might be injured. In acute synovitis of the joint there was no instability of the joint, and the condition quickly improved with rest and elastic pressure. Rupture of ligaments was chiefly due to over-extension, when the posterior ligament, the hinder part of the internal lateral ligament, and the anterior crucial ligament gave way; this lesion was seen chiefly in those who played football. The treatment would consist in complete rest in the extended position for three months, followed by massage. Some cases had been able to return to football. When lateral movement had caused the breaking of a lateral ligament mere rest was insufficient, and the best treatment was to suture the torn ligament. When the anterior ligament was torn primary suture was best, but it should be followed by rest for several weeks. When one or both crucial ligaments were torn it was by no means certain what was the best treatment; probably it would be best to order a firm knee-cap which would support the joint. For hæmophilia rest was the best treatment combined with the use of horse serum; it was important that no incision should be made, and that not even aspiration should be performed. Occasionally loose bodies might be due to injury; in one case he had seen portions of the articular cartilage, and in another case he had found the loose body was composed of a blood-clot, while in a third case he had seen small flakes which had no doubt been derived from a semilunar fibro-cartilage. The symptoms of loose bodies might be very obscure, but sooner or later the body could be felt; it was always advisable to fix the loose body by means of a needle before incising the joint, and a local anæsthetic was best. Traumatic osteo-arthritis was probably always the result of injury to a joint which was already affected with osteo-arthritis. Operations were generally useless. The most important condition about which he would speak was injury to one of the semilunar fibro-cartilages.[1] This injury was very common in the north of England; in mining the knees were flexed when the seam of coal was not thick; and while the knee was flexed there was powerful rotation, as the miner swung round to throw the coal into the "tub." In this movement the fibro-cartilage was liable to be torn. The internal fibro-cartilage was most commonly affected—in over 92 per cent.—and this was probably due to the fact that the internal cartilage was more firmly attached and therefore was more liable to be torn when pulled on. The injury was most often in the anterior part; the cartilage might be torn or ruptured, or it might even be split horizontally. Sometimes a portion of the ruptured piece might project on the inner side of the joint, and it might give rise to a palpable swelling, and this was the only way in which an injured fibro-cartilage could give rise to a prominence. After the injury had once occurred very slight causes might reproduce it. When the lesion occurred in footballers the fixation on one foot on the ground by the studs on the sole was a great factor in the production of the injury. A direct blow could never cause injury of a fibro-cartilage. The symptoms were simple; the knee was fixed in the flexed position; there was great pain, and the patient felt perfectly helpless. Soon swelling came on, which slowly subsided. After a number of attacks the signs might

[1] THE LANCET, Oct. 19th, 1912, p. 1067.

become very slight, only a click and a little pain showing what had occurred, no effusion taking place. The diagnosis was usually very easy; the condition which was most likely to be mistaken for it was osteo-arthritis. Healing of the tear might certainly occur. (A specimen was shown exhibiting a scar.) Complete rest of the joint for two months was advisable. In a mild case the use of a knee brace was all that might be required if the patient would agree to give up all forms of violent exercise. If, however, the patient's occupation consisted in heavy manual labour an operation was needed. It was always well to wait for a week or ten days after the injury before operating. A two-inch transverse incision was best, made over the anterior part of the cartilage. Generally he removed the whole of the cartilage. After the operation there might be a slight rise of temperature and some pain, but these were transient. In a few cases both cartilages needed removal.

Mr. A. J. WALTON (London) had prepared a paper which in his absence was read by the Secretary. He pointed out that in full extension there was rotation of the tibia, with tightening of the two crucial ligaments, and he believed that the injuries of the cartilage were caused when the limb was in the extended position. All the conditions could be reproduced on the cadaver, and he brought forward evidence showing that the injury had occurred when the knee was extended.

Mr. R. H. A. WHITELOCKE (Oxford) had had much experience of this lesion amongst athletes. He considered that the most common injury was transverse fracture in the anterior third in athletes, while in miners it appeared to be a slit. He agreed that the injury occurred when the knee was flexed. With regard to simple sprain of the knee-joint he held that a certain diagnosis could not be made without an X ray examination, for often there was slight fracture as well; for instance, the spine of the tibia might be torn off. The treatment of simple sprain consisted in pressure, with massage as soon as the effusion was gone. If any ligament was torn it should be sutured. He had had a case of hæmophilia in which he had incised the joint without knowing that the patient had hæmophilia. He had had great trouble in stopping the hæmorrhage; in fact, it lasted a week until he employed horse serum.

Mr. HEY GROVES believed that violent rotation of the joint in any position might cause injury to a semilunar fibro-cartilage. In cases in which no injury to the internal cartilage could be found he was in favour of continuing the incision across the middle line so as to expose the whole of the joint.

Dr. DALZIEL had seen cases in which the cartilages had been pulverised; he had described the condition 26 years ago.

Mr. E. F. FINCH (Sheffield) believed that in miners the injury was caused by sudden extension of the joint.

Mr. J. M. COTTERILL (Edinburgh) mentioned that 40 years ago he had assisted Professor Annandale in the first operation for a loose cartilage of the knee. He believed that the whole thickness of the cartilage might be torn off so as to form a palpable swelling on the inner side. He preferred a somewhat oblique incision; if it were necessary to examine the whole joint he continued the incision across the joint and separated the tubercle of the tibia; this was better than dividing the patella. He did not think that it was necessary to remove the whole of the cartilage.

Mr. MCADAM ECCLES considered that some cases of stiffness after injury to the knee were due to partial ossification of the patellar ligament. In three cases he had excised the bony nodule with cure of the symptoms.

Mr. A. C. T. WOODWARD (London) had found local anæsthesia of great value in operations on loose cartilages. He had met with horizontal splitting of the cartilage.

The PRESIDENT remarked that as the knee was found locked in the flexed position it was clear that the injury could occur with the knee flexed.

Mr. MARTIN replied.

Mr. HEY GROVES read a paper on

The Operative Treatment of Compound and Comminuted Fractures.

He exhibited a form of apparatus which he had devised for the purpose of fixing compound and comminuted fractures. It consisted of two steel pins, one of which was passed through the bone above and the other below the fracture, and then when the fragments were placed in position two longitudinal rods were adjusted to the ends of the steel pins so as to retain the fragments. A cat was shown in which this had been done for a fracture of the femur, and the animal was able to walk about, although the operation had been performed only 10 days before. The steel pins caused no irritation where they passed through the bone.

Dr. DALZIEL read a paper on

Chronic Enteritis.

He said that he had seen the first case 12 years ago. A colleague had been attacked with intestinal obstruction, and when the abdomen was opened it was found that the whole of the small intestine was greatly contracted and the mesenteric glands were enlarged. The patient died. In another case the whole of the bowel was affected, but in seven other cases the disease was local. Generally there was some obstruction, and a mass could be palpated through the abdominal wall. It was possible in the partial cases to remove the affected bowel. The change was a chronic inflammation with some degeneration. The symptoms were colicky pains with vomiting and the discharge of some blood from the bowel. The prognosis was bad in the general cases, but all the localised cases recovered. A similar disease had been described in cattle. Nothing was known as to the cause of the affection, but in one case a coliform bacillus was found.

FRIDAY, JULY 25TH.

Mr. H. WADE (Edinburgh) read a paper on

Prostatism: the Pathological Basis of the Operative Treatment.

The paper was based on material from 134 cases of prostatic disease. Mr. Wade said that in these cases three varieties were present: (1) Prostatic hypertrophy or chronic lobular prostatitis (110 cases); (2) prostatic fibrosis or chronic interstitial prostatitis (10 cases); and (3) prostatic carcinoma (14 cases). Prostatic hypertrophy was considered to be a senile hyperplasia, an aberrant growth of tissue not the result of the appearance of an independent new growth, but possessing a pronounced liability to develop into a carcinoma. The disease was generally associated with great increase in the size of the gland. It was occasionally met with in glands smaller than normal, but producing pronounced prostatic dysuria. In the cases examined the disease was confined to the middle and lateral lobes in all the cases except one, where it was confined to the anterior lobe. The posterior lobe was never involved. The glandular hypertrophy resulted in changes that rendered the operation of suprapubic enucleation possible and usually easy—a false capsule of condensed uninvolved prostatic tissue was formed, the flattened gland acini of the latter forming a ring of "postage stamp" perforation between the diseased tissue and the false capsule. It herniated itself through the internal vesical sphincter, crushing it to the side, and came to lie under the mucous membrane of the bladder. The seminal vesicles and ejaculatory ducts were displaced into a region of safety. This class of case of advanced chronic lobular prostatitis was the ideal case for suprapubic prostatectomy. The cases of this disease that were not ideal were: (1) Cases without hypertrophy; (2) cases of hypertrophy without intravesical herniation; and (3) cases of incomplete false capsule formation. Prostatic fibrosis or chronic interstitial prostatitis might involve the middle lobe and produce a fibrous sclerotic bar. In this disease none of the changes that facilitated suprapubic enucleation occurred. Of the 14 cases of carcinoma of the prostate 10 had undergone prostatectomy, and 6 of these were associated with chronic lobular prostatitis. It was the rule for the carcinoma to commence in the centre of an area of chronic lobular prostatitis, so that at first enucleation was rendered more easy. The cause of death in untreated cases of prostatism was either a sudden renal infection (acute consecutive suppurative nephritis), or a slow renal destruction from prolonged backward pressure. In all cases examined there were signs of chronic interstitial nephritis which was considered to be produced or aggravated by the chronic prostatic disease. The mortality of prostatectomy, despite the brilliant results of certain surgeons, was very high. It was considered to be from 20 to 25 per cent. in most general hospitals. This was accounted for mainly by the advanced stage of the disease when operation was undertaken. The immediate cause of death after

suprapubic prostatectomy in 68 cases was in the great majority an acute infection arising from the wound. The changes produced in the prostate gland by the operation of suprapubic prostatectomy were determined mainly by the nature of the disease present in it. The tissue removed was found to come away in one of four different ways: (1) Total enucleation along with the prostatic urethra; (2) total enucleation with conservation of the prostatic urethra; (3) lobar enucleation; and (4) nodular enucleation. Fatal cases examined showed the internal and external vesical sphincters undamaged, the thick false capsule containing prostatic tissue and the ejaculatory ducts and posterior lobe undamaged. In only one case out of eight were the ejaculatory ducts found damaged. In nodular enucleation the danger was laceration of the false capsule. Complete extracapsular enucleation was considered impossible by suprapubic finger dissection. In early cases of chronic lobular prostatitis to delay operation to allow the gland to ripen was not justifiable. The fibrous prostate was best treated by Young's prostatic punch. The operation of suprapubic prostatectomy was unsuitable in all cases of prostatism due to other causes than advanced chronic lobular prostatitis of a certain type. Perineal prostatectomy by open dissection was the most suitable operation for such cases. Perineal prostatectomy (Young's operation) permitted of the removal of the disease when its presence was diagnosed in all cases. It was therefore at present the operation that offered the best prospect of further advance in the treatment of prostatism. For its successful performance an accurate knowledge of the anatomical structure and relationship of the prostate was necessary, as well as an understanding of the pathology of the disease. Carcinoma of the prostate might be clinically indistinguishable in an early case from chronic lobular prostatitis with which it might be associated. When recognised clinically it might be treated by excision of the gland in suitable cases.

Dr. DALZIEL read a paper on

Neuralgia of the Twelfth Dorsal Nerve Simulating Visceral Lesions.

He said that the first case he had seen was some 15 years ago. The patient had complained of severe pain on the right side of the abdomen, passing down to the groin and over the crest of the ilium, and it was also felt under the twelfth rib. The pain evidently corresponded to the area of distribution of the twelfth dorsal nerve, and as it had lasted for several years he decided to resect a portion of the nerve near its origin. This was done and the pain disappeared. He considered it probable that neuralgia of the twelfth nerve was one cause of persistence of pain after removal of the appendix. He had met with 22 cases, on all of which he had operated, and in only two cases did the operation fail to give relief. In one case the pain had lasted 15 years, and several operations had been performed unavailingly; after resection of the twelfth nerve recovery was complete. The chief point in the diagnosis was the area of pain. It was possible that in some cases the pain was due to pressure on the nerve.

Dr. JOHN B. ROBERTS (Philadelphia) mentioned that he had had a similar case affecting the eleventh nerve.

Dr. W. H. I. SELLERS (Preston) had recently had a very similar case, and he was inclined to advise removal of a portion of the nerve.

The PRESIDENT asked if in any of these cases the nerve had been examined microscopically to see if any morbid change was present.

Dr. DALZIEL, in reply, stated that in only two of the cases could any disease of the nerve be found.

Mr. HERBERT J. PATERSON (London) read a paper on

The Surgical Treatment of Intestinal Stasis.

He said that it was being increasingly recognised that in certain cases of intestinal stasis there was need of operation. Definite bands might occur at the end of the ileum, or at various sites in the colon. The symptoms caused by these bands belonged to two groups; in one they were due to obstruction, and in the other they were due to auto-intoxication. There was abundant evidence now that in many cases of gastric trouble the symptoms were due to disease of the appendix, and removal of the appendix removed the symptoms. Vomiting in cases of intestinal stasis might be due to a toxic gastritis or to a kink in the duodenum caused by the distension of the bowel. Mr. Paterson related a case which showed the efficacy of removal of a cæcal band. The best test for intestinal stasis was to administer powdered charcoal and then to watch for the charcoal in the fæces; if it did not appear within 70 to 100 hours it was evidence of intestinal stasis. Where there was evidence of appendical trouble, of definite kinks, or obstruction by bands, surgical treatment was indicated. When the stasis was due to atony of the bowel or to a large mobile cæcum, medical treatment must have had a prolonged and thorough trial and have failed before surgical treatment was indicated. In a certain number of cases the removal of the appendix was sufficient to relieve the symptoms, but in others it was necessary to divide bands or to perform a junction between the ileum and the pelvic colon. He had had some very successful cases lately in which he had performed a partial colectomy; it consisted in dividing the ileum and anastomosing it to the transverse colon in an antiperistaltic direction, and then resecting the right half of the transverse colon.

Mr. C. A. R. NITCH (London) welcomed the idea of a partial colectomy, and inquired in how many cases Mr. Paterson had performed this operation.

In reply, Mr. PATERSON stated that he had had 7 cases and all had recovered.

Mr. C. P. CHILDE (Southsea) read a paper on a case of

Retroperitoneal Fibroma (34¼ lb. in weight) Successfully Removed.

The patient was a man, 49 years of age, who had been gradually increasing in weight and in the size of the abdomen, though he was very wasted. The abdomen was filled with a nodular mass, which in parts was very hard. It had grown more rapidly the last few months, but at no time had he ever consulted a medical man. The growth was removed; it was found to lie behind the peritoneum, and much time was taken in shelling it out. The operation lasted three hours, but there was no shock. Apparently it had grown from the capsule of the left kidney. The pathological report was that it was a fibroma, with some myxomatous tissue, and that in parts it had ossified.

Dr. DALZIEL mentioned that he had removed two large retroperitoneal fibroids weighing 7 lb. and 9 lb. respectively.

Dr. F. K. SMITH (Aberdeen) suggested that in such cases an X ray examination might prove of value.

Mr. PATERSON asked if the hæmorrhage had been severe.

The PRESIDENT related a similar case under his own care in an old lady; the tumour weighed 17 lb. and was successfully removed, but it recurred some months later.

Mr. CHILDE, in reply, stated that there had been no severe hæmorrhage.

GYNÆCOLOGY AND OBSTETRICS.

WEDNESDAY, JULY 23RD.

President, Dr. F. R. SANDERSON (Hove).

The PRESIDENT, in welcoming the members of the section, said that the papers to be read during the meeting covered a wide field of interest and illustrated the truth that this specialty is by no means now limited to the boundaries of the pelvis. Diseases of the female pelvic organs were closely linked with the sciences of bio-chemistry and physiology, as shown by recent work upon the ductless glands, &c. Many problems still awaited solution. Some might be solved in years to come, whilst upon others the light might never shine.

Dr. MARY SCHARLIEB (London), in opening the discussion on

The Best Methods of Dealing with Malpositions of the Uterus, Especially with Reference to Retrodisplacements and Prolapse,

referred to the similar debate that had recently taken place in London upon the same subject. The diagnosis and treatment of uterine displacements were of extreme importance to all engaged in this work. The first point that she wished to emphasise was that many displacements required no treatment and might well be left alone. Others were adequately treated by self-retaining pessaries and a few required operation. She was glad to be able to state that the days of the intra-uterine stem pessary in the treatment of uterine malpositions were gone, and she wished that the cup and stem pessary was also obsolete. Upon one occasion she had removed a box-wood pessary of this type which had caused

deep ulceration and at the margins of the ulcer the microscope revealed early malignant change. The speaker also referred to the custom amongst the Madras natives of treating complete prolapse of the uterus by the insertion into the vagina of a large fruit known as the wood apple. In the past many varieties of pessary had been introduced and advocated in turn. Many of these had since been consigned to the scrap heap, and to-day they relied principally upon one of the forms of common ring pessary or else the Hodge lever pessary. As regards operation for uterine displacements, the speaker thought that although surgery was but rarely required for malpositions *per se*, it was necessary on some occasions to correct displacements from other causes. During the last 18 years she had performed laparotomy 93 times where correction of uterine displacement formed either the whole or part of the operation. The methods that she employed were either ventral suspension or hysteropexy. By ventral suspension she meant shortening the round ligaments by drawing a loop of the latter through the fascia of the abdominal wall. The method of hysteropexy that she preferred was suture of the lower part of the anterior wall of the uterus to the anterior abdominal wall. The upper part of the anterior wall, the whole of the fundus, and the posterior wall of the uterus were left free. In many of her cases fixation of the uterus was only an accessory of the primary operation, which included such procedures as appendicectomy, ovariotomy, or myomectomy. If the retroversion was the sole indication for laparotomy, it was frequently advisable to combine fixation or suspension with a plastic operation upon the pelvic floor and anterior vaginal wall. Amongst the various methods of repair of the pelvic floor Mrs. Scharlieb preferred Holden's operation. In this operation the mucous membrane of the posterior vaginal wall was dissected outwards, the rectum was freed from its attachments, and the levatores ani were thoroughly exposed and brought together. The operation was satisfactory in every way. Amongst her series of operations for uterine displacements the speaker had had no mortality. Furthermore, the after-results had shown that there need be no apprehension as regards dystocia in future labours if care was taken to leave the fundus uteri free to expand. This might be secured by inserting the fixing sutures below the level of insertion of the round ligaments.

Dr. HANS SCHLIMPERT (Freiburg) said that prolapse of the uterus must be regarded as a hernia due to either congenital defect or widening of the natural hiatus in the pelvic floor. The object of all operations for the cure of prolapse must therefore be to assist the levatores ani. Tweedy, Bumm, and others thought that the pelvic fascia was of paramount importance in preventing procidentia. Krönig, on the other hand, was of opinion that the musculature of the pelvic floor was the controlling factor. The speaker was in entire agreement with this latter view, and he described in detail the technique employed in Krönig's clinic at Freiburg to re-establish an efficient pelvic musculature. In mild cases of prolapse it sufficed to expose and suture the transversus perinei muscles. In severe cases, however, the levatores ani must be sutured. It was impossible to reach the free edges of these muscles unless the transversus perinei fibres were divided. This was accordingly done, and the two levatores were then approximated by buried catgut sutures. Dr. Schlimpert had investigated the results of 272 operations of this character performed between July, 1909, and July, 1912. 169 of the patients had been re-examined at varying dates after operation. Amongst 99 cases of suture of the superficial muscles only two cases of total prolapse and one of partial prolapse recurred. On the other hand, where the radical operation was performed no case of total prolapse recurred, and only one example amongst the partial displacements showed evidence of return. The prognosis depended entirely upon the character of the levatores ani. If they were good, cure was assured; if they were weak, then recurrence was liable to take place. An important point was that the muscles undoubtedly became stronger and larger after suture. The mortality was, unfortunately, somewhat high. In the series of 272 cases three deaths occurred, giving a mortality rate of 1·1 per cent. This Dr. Schlimpert attributed to the wider dissection and greater hæmorrhage that occurred in the more radical operations. With improved technique the risk of abscess would be less, and the results as regards mortality would undoubtedly improve. The indication for the type of operation to be employed in any given case was provided by rectal examination. If the levatores ani were strong and only admitted two fingers, then simple colporrhaphy was sufficient. If, on the other hand, the levatores ani were strong but the rectum admitted more than two fingers, then suture of the transversus perinei by Holden's method was indicated. Should the levatores be weak and admit four fingers, these muscles must be dissected out and sutured together. If the latter were not palpable, the speaker regarded the case as inoperable and employed mechanical methods of support.

Professor HENRY CORBY (Cork) observed that in his opinion excessive weight of the uterus and laxity of the posterior vaginal wall were the prime causes of retrodisplacements of the uterus. Relaxation with lengthening of the posterior wall of the vagina had not been recognised as of extreme importance, and he wished to lay emphasis upon the value of this etiological factor. Correct treatment, therefore, should aim at making this wall tense. The speaker described the method that he employed to replace digitally a retroverted uterus. The essential points in this method were backward and downward pressure upon the posterior vaginal wall, with upward and backward pressure of the cervix. The tissues were rendered tense and the malposition was very easily rectified. Professor Corby very rarely had recourse to the uterine sound to replace retrodisplacements of the uterus. As regards operative measures, he preferred vaginal methods, and frequently performed a complex operation, including arterior and posterior colporrhaphy, amputation of the cervix, and curetting. Posterior colporrhaphy to be successful must *shorten* the vaginal wall. He therefore employed a transverse elliptical incision 1½ inches above the perineum. The vertical incision in posterior colporrhaphy was essentially wrong, inasmuch as it did not produce any increase of tension or shortening.

Dr. A. E. GILES (London) expressed himself as being in complete harmony with Dr. Scharlieb's views on technique. When operation was required for uterine displacements he always preferred abdominal fixation or Gilliam's method. He could not follow Professor Corby's views upon the etiology of retroversion, and did not think that tension upon the posterior vaginal wall would cure this condition apart from the employment of a pessary. As regards the indications for operation, he thought that the personal opinion of the surgeon would always decide this question. Probably he performed more operations for this cause than other people, but he was convinced that the patients were better for operation. Many of his cases had been associated with other lesions—e.g., pelvic inflammation, ovarian tumour, fibroids, or disease of the uterine appendages. When retroversion was the only lesion present, Dr. Giles thought that if a pessary was indicated it was only right and fair to the patient to offer her the alternative of operation. Pessaries were necessary evils, and many women would prefer operation if the same was placed before them.

Mr. CHRISTOPHER MARTIN (Birmingham) was in entire agreement with Dr. Scharlieb's *résumé* of the subject. He thought, however, that Professor Corby was "putting the cart before the horse" in attributing retroversion to laxity of the posterior vaginal wall. As regards prolapse he always considered it to be a hernia due to a giving way of the pelvic fascia. Operation should therefore restore this structure, and non-observance of this fact was the cause of failure in the older operations. Mr. Martin agreed with Dr. Giles in regarding all pessaries as necessary evils, but at the same time it was impossible to operate upon every woman with a uterine displacement. Special hospitals would be required. Amongst all the pessaries advocated for prolapse he thought that Simpson's "shelf" was the best for keeping the uterus in position. It was comfortable, efficient, and would produce no evil effects if changed from time to time. With reference to the operations for backward displacements he preferred hysteropexy, leaving the fundus uteri free. He disliked operations upon the round ligaments and had seen several recurrences from the same. For cases of extreme prolapse in single women past the menopause, he thought that hysterectomy with excision of the vagina was justifiable and he had performed it with excellent results upon six occasions.

Dr. CUTHBERT LOCKYER (London) preferred to discuss the best treatment for uterine malpositions under the

following heads: (1) Simple uncomplicated retrodisplacements; (2) simple backward displacements accompanied by descent; (3) descent with prolapse of vaginal walls; (4) descent with prolapse of vaginal walls and bladder; and (5) adherent retrodisplacements. He purposely excluded rectocele as outside the scope of the discussion. Group 1 in many cases called for no treatment. This was especially the case in young unmarried girls. If the patient was married and dispareunia or sterility was present a Hodge pessary might be tried, or, failing this, ventral suspension. Group 2 was common after parturition, but here also the majority of cases might be cured by rest in bed, massage, and tonic treatment. If a pessary was used there was nothing better than a watch-spring or vulcanite ring. Group 3 included a very mixed collection of cases, but most could be relieved by a self-retaining ring pessary if the pelvic floor was intact. Group 4 required operation involving anterior and posterior colporrhaphy and amputation of the cervix. In performing anterior colporrhaphy the speaker laid particular stress upon his method of invaginating the bladder and attaching the same by a suture to the cervix as high as possible. The retroflexed body of the uterus was left alone since the symptoms were due to bladder complications and not to the backward displacement. In cases of complete procidentia the speaker preferred Le Fort's operation. Group 5 always required laparotomy, but as regards abdominal section for retrodisplacements *per se* there were undoubtedly two schools of opinion. In a series of 733 consecutive laparotomies Dr. Lockyer had only performed uterine fixation or suspension 41 times—i.e., in about 5·5 per cent. of cases. Since 1906 he had employed Gilliam's method with entirely satisfactory results. Previously he always used ventral fixation as described by Dr. Scharlieb.

Dr. FRANCES IVENS (Liverpool) referred briefly to Gilliam's operation in the treatment of uterine displacements. She had performed it upon 100 patients, and until recently had had no cause to be dissatisfied with the operation. She had lately, however, to reopen the abdomen upon two occasions for symptoms suggestive of obstruction several months after the "fixation." In one case she found a coil of intestine included in the loop, and in the other a portion of omentum. She now employed the modification of Gilliam's operation suggested by Mayo, and in the last 75 cases had been quite satisfied with the results.

Dr. W. RITCHIE (Glasgow) recorded his experience of ventral suspension operations for uterine retroversion. In the case of 40 patients treated by Gilliam's method and seen six months or more after operation there had only been one recurrence. This patient developed acute pneumonia immediately after operation, and the sutures had not remained secure. Recently he had cut the round ligaments in each case and dissected them from the corresponding broad ligaments before the uterus was drawn forward. This manœuvre helped to avoid the occurrence of subsequent intestinal obstruction.

Dr. R. L. DICKENSON (New York) epitomised American, German, and English practice in the treatment of uterine displacements, and contrasted the same. He had seen the work of Krönig and Schlimpert at Freiburg, and wished to emphasise the effectiveness of the operations performed for prolapse. He was interested to note that pessaries were used more frequently in England than in America. There was undoubtedly a place for the pessary, and it should be used in America more than it was at present in suitable cases. He was surprised to hear that ventral fixation was employed so much in this country. Kelly had absolutely abandoned it, and the speaker always sutured the *posterior* uterine wall to the anterior abdominal wall. Gilliam's operation and Mayo's modification of the same were frequently performed in America to-day. Perhaps the most widely used method, however, was the "sling" operation of Clarence Webster. Its advantage was that it lifts the ovaries out of Douglas's cul-de-sac and relieves the undoubted congestion of the same. Amongst prolapse operations Schauta's vesico-vaginal interposition was at present enjoying considerable popularity in America. Even more radical methods were sometimes employed. Thus Goff advocated hysterectomy with suture of the two broad ligaments together and to the bladder.

Dr. SCHARLIEB, Dr. SCHLIMPERT, and Professor CORBY replied.

THURSDAY, JULY 24TH.

Sir JOHN HALLIDAY CROOM (Edinburgh), in opening the discussion on

Affections of the Urinary Tract complicating Pregnancy,

said that the subject was of such wide dimensions that in the time at his disposal it was only possible to make a selection of the most interesting conditions included within this category. He just briefly noted the normal conditions of the urinary tract and constituents of the urine during pregnancy and contrasted these with the non-pregnant state. During pregnancy the total quantity of urine was increased. It had a specific gravity about 1014, and the urea, although variable in quantity, was usually below normal. The total nitrogen excretion was decreased and alimentary glycosuria was common. Peptone was present in the urine of about 20 per cent. of pregnant women and about one-third showed traces of albumin when the finest tests were employed. It was most important to make periodical analyses of the urine throughout the period of pregnancy, since by this means it was possible to ward off by appropriate treatment eclampsia and other grave manifestations of toxæmia. The speaker advised routine examination of the urine every three weeks until the seventh month of pregnancy, and then every 14 days. Sir Halliday Croom then discussed the present-day views upon pyelitis and pregnancy. He observed that an important distinction must be drawn between those cases of pyelitis which were pre-existent and were merely associated with pregnancy and those which were directly due to the latter condition. As regards the causation of the true pyelitis gravidarum, the speaker favoured the theory of Olshausen that it was due to pressure of the gravid uterus upon the ureters. The right kidney was usually involved, and the reason for this was that the corresponding ureter lies more exposed than the left at the brim of the pelvis. The right obliquity of the uterus might also be a predisposing factor. Pressure of the fœtal head upon the ureter could have but little influence since pyelitis had been known to develop before the fœtus was of sufficiently large size to cause symptoms of this kind. In a series of cystoscopic examinations conducted in these cases the speaker had noted hyperæmia and congestion of the mucosa. Very slight pressure upon the ureteral orifices would thus cause occlusion. The majority of cases of pyelitis were due to organisms of the bacillus coli type. Occasionally pyogenic, gonococcal, or tuberculous germs were met with, and the infection might be either ascending or descending. The symptoms might at first be slight, but later the patients developed severe pain on the right side of the abdomen, with rigors, rapid pulse, and a "furred" tongue. The diagnosis had to be made from cholecystitis, appendicitis, and salpingitis. Since some cases occurred for the first time during the puerperium, some difficulty might be experienced in distinguishing the condition from inflammatory lesions in the pelvis. The prognosis for the mother was good, but for the child it was distinctly unfavourable. Premature labour and death of the fœtus were common, and therefore there need be no hesitation in emptying the uterus if necessary during the early months rather than waiting till the child was viable. Sir Halliday Croom next dealt with the relation of toxæmia to the urinary tract in pregnancy. Anæmia of the kidney occurred very frequently without destruction of the renal epithelium. Its clinical significance was that owing to extra metabolism increased strain was thrown upon the kidney, and therefore the condition must be carefully watched. If true nephritis occurred the prognosis was worse when pregnancy was present, and occasionally true nephritis would develop for the first time at this period. Acidosis was also of much importance during pregnancy as showing an alteration in the nitrogen and ammonia coefficient. According to Swayne, acidosis associated with pregnancy meant toxæmia. In pernicious vomiting of the toxæmic type the urinary changes were of value, as shown by Whitridge Williams. Oxybutyric acid, diacetic acid, indican, and albumin were present, and the output of total nitrogen as ammonia was increased. If the latter reached as high as 20 per cent. and the patient did not improve with rest, dieting, rectal infusions, &c., the case was of the true toxæmic type. The speaker also referred briefly to the relation of diabetes and pregnancy. Glycosuria was not at all uncommon in pregnant women, but it was of the "alimentary" type, and was quite evanescent. In true

diabetes, diacetic acid and albumin were also present. Many diabetics were sterile, but should pregnancy occur premature labour takes place in 50 per cent. of these cases. The prognosis was always grave, and coma was very liable to develop. Should the pregnancy continue to full term the labour must be free from exertion as far as possible, since muscular exercise increased acidosis. In conclusion, Sir Halliday Croom put in a plea for the establishment of pre-maternity beds and the closer collaboration of the maternity hospitals with the chemical laboratory. If this could be effected many disasters due to toxæmia would be prevented, and much light would be thrown upon this very obscure subject.

Dr. HERBERT WILLIAMSON (London) was not prepared to agree with the fact that pyelitis was the direct result of pregnancy, and thought that too much stress was laid upon the latter as the essential cause of the disease. Infections of the urinary tract by organisms of the "coli" group were very common at all ages, and especially in children. The right ureter was almost always affected in the latter, and furthermore, a very important point was that dilatation of the ureter occurred apart from pregnancy and in the absence of any obstruction from outside. In the light of these facts they must reconsider the etiology of the disease. If obstruction was the cause, why was not dilatation of the ureter more common in contracted pelvis or with fibroids of the uterus? The speaker did not think, therefore, that pyelitis of pregnancy was a distinct disease. The infecting germ was usually one of the coliform group. In one of his series of cases where bio-chemical tests had been used the bacillus paratyphosus had been found. Stock vaccines, therefore, could be of but little use. They must be autogenous. Dr. Williamson recognised three distinct routes of infection—viz.: (1) Ascending from the bladder *viâ* the lymphatics in the wall of the ureter; (2) blood stream, as proved both clinically and experimentally; and (3) through the wall of the bowel, either by (*a*) direct infection of the kidney from the colon, (*b*) lymphatic connexions, or (*c*) an inflamed appendix adherent to the ureter. The symptomatology was most varied, but the speaker tabulated the cases into groups as follows: (1) Those commencing with general malaise and pain; (2) those associated with acute lumbar pain and later constitutional symptoms; (3) those commencing with high fever and no localising symptoms; (4) those with marked urinary symptoms; (5) those associated with vomiting and abdominal distension, simulating obstruction of the bowel; and (6) symptoms suggestive of pleurisy or pneumonia. Treatment involved five essential points: (1) Absolute rest in bed, the patient lying upon the opposite side to assist drainage of the kidney; (2) a diet consisting of fish, cocoa, bread and butter, custards, &c. (this was better than a rigid milk diet); (3) large imbibition of fluids such as barley or Vichy water containing enough potassii citras to render the urine alkaline; (4) administration of urinary antiseptics, of which the best were urotropine and helmitol; and (5) free purgation. The speaker had not found that sera or vaccines were of great utility and he thought that nephrotomy was very rarely called for.

Dr. H. O. NICHOLSON (Edinburgh) wished to draw attention to the increase of blood pressure in the toxæmias of pregnancy. As the toxæmia increased there was a striking rise in the blood pressure associated with suppression of urine. This he attributed to spasm of the smaller vessels in the kidney glomeruli. The pressure in the latter was consequently *nil*, although the general blood pressure was high. The speaker contrasted the phenomenon with the effect of digitalis, and also observed that the post-mortem appearances in the liver, kidneys, spleen, and lungs in eclampsia were suggestive of a cutting off of the blood supply.

Mr. F. EDGE (Birmingham) thought that the majority of cases of pyelitis were due to an ascending infection of the urinary tract, and many might be traced to defective cleansing of the vulva and rectum. The same condition was liable to occur after hysterectomy if scrupulous cleanliness was not enforced. If a patient developed pyelitis or toxæmic symptoms in successive pregnancies he thought that the question of sterilisation might well be discussed. Mr. Edge was in complete agreement with Sir Halliday Croom on the advisability of collaboration of maternity hospitals with bio-chemical laboratories.

Dr. H. BRAMWELL (Frome) fully agreed with Dr. Williamson's observations upon the lack of argument of the mechanical theory of the pyelonephritis of pregnancy. He believed that pregnancy was coexistent and not causative. He also drew attention to the fact that the right kidney was frequently the more movable of the two in women, and this might favour infection of the right organ. The situation of the appendix upon the right side and the greater virulence of the germs in the ascending colon were also accessory factors to the frequency of right-sided pyelitis.

Dr. DICKENSON referred to the practice of irrigation of the renal pelvis for pyelitis that was sometimes employed in America. He also thought that insufficient attention was given to the question of the rise of blood pressure, which was one of the earliest of danger signals in threatened toxæmia of pregnancy. Practitioners should be told to make systematic examinations of the blood pressure just as they had been taught the value of careful urinary analysis from the second month of pregnancy onwards. A rise in blood pressure occurred ten days before any change could be detected in the urine.

Dr. R. MOWBRAY (Castlederg, co. Tyrone) emphasised the comparative infrequency with which affections of the urinary tract with pregnancy were met with in country districts. In a midwifery practice involving 80 to 100 cases per annum, in the course of 13 years he had only met with two cases of eclampsia. This he attributed to the fresh air and country life of the patients.

Dr. H. LEITH MURRAY (Liverpool) observed that "acidosis" and "acid intoxication" were two very different things. The "acid" radical was the poisonous body, whilst acetone was absolutely non-toxic. Therefore, unless the acid bodies could be demonstrated the ammonia excess in toxæmias of pregnancy must be put down to some other cause than "acidosis." The condition was certainly not one of acid-intoxication. In pregnancy there was present a primary liver weakness, and this accounted for the ammonia excess. In diabetes, on the other hand, nothing of the kind existed. Even in normal pregnancy the percentage of ammonia might be much increased. The fact of increase was not so important as rapid alterations in the amount excreted. Therefore Dr. Murray advised that repeated estimations of the ammonia should be made, and not a single investigation from a "24 hours' specimen." A simple method of estimating the ammonia was that devised by Mathison. For investigating the acetone bodies in urine the speaker recommended Hart's method. He could not agree with the view put forward by Dr. Williamson that vaccines were not useful in the treatment of pyelitis.

Sir HALLIDAY CROOM replied.

FRIDAY, JULY 25TH.

Reasons for Early Operation on Uterine Fibroids.

Dr. A. E. GILES (London) communicated a paper urging the importance of early operation on uterine fibroids in contradistinction to the expectant or "wait-and-see" policy of allowing such tumours to remain until the menopause. The reasons that had from time to time been put forward by advocates of the latter course were mainly that the symptoms of fibroids usually disappeared at the climacteric, that in themselves they were not dangerous tumours, and, lastly, that the risk of operation was considerable. The speaker discussed each of these points in turn. With regard to the first named he pointed out that hæmorrhage was not the only symptom of fibroids. Pain and pressure effects were also present, and these did not disappear at the menopause. Neither did the tumour as a rule shrink at this period. As to whether a fibroid was dangerous or not depended rather upon the kind of tumour than its size. Also, regarding the question of operation, a hysterectomy for simple uncomplicated fibroids was now not at all a dangerous operation, and might well be employed to relieve symptoms as well as to save life. The argument of danger of operation was therefore out of date. Dr. Giles advanced the following reasons for early operation in these cases: 1. The age-incidence of fibroids was so varied that no importance could be attached to age as an indication for operation. In the case of 575 laparotomies for fibroids, 3 patients were under 25, 12 from 25–29, 92 from 35–39, 156 from 40–44, and 16 at 60 or over. Quite 18 per cent. of all cases required operation after the usual age of the menopause. 2. Early operation would often allow of a conservative myomectomy, when delayed operation necessitated hysterectomy. Under the age of 30, 46 per cent. of

the speaker's operations for fibroids consisted of myomectomies, whereas over 50 only 7·7 per cent. were of this nature. 3. In a large proportion of cases fibroid tumours were associated with pathological complications, many of which were of a dangerous nature. Thus, of the serious complications, especially suppuration in the pelvis, ovarian tumours, malignant disease, and degeneration of fibroids, quite 40 per cent. occurred after the age of 50. 4. Diagnosis was still so uncertain that grave conditions, urgently requiring operation, might be mistaken for simple fibroids. The speaker referred to cases of ovarian fibroma or fibro-adenoma, carcinoma of the body of the uterus, and extensive malignant disease in the pelvis under the care of gynæcologists of repute which had been mistaken for uterine fibroids until operation revealed their true nature. 5. The mortality attendant upon the procedures of myomectomy and hysterectomy in the practice of experienced surgeons had become so reduced that operation might legitimately be advised for the relief of suffering when life was not directly threatened. The speaker illustrated this fact with tables showing the mortality of hysterectomy and myomectomy at the Chelsea Hospital for Women from 1886 until 1910. In Dr. Giles's own series of 550 cases of hysterectomy the mortality rate was 2·7 per cent.

The paper was discussed by the PRESIDENT, Dr. SCHLIMPERT, Dr. C. E. PURSLOW (Birmingham), Dr. DICKENSON, and Dr. A. LOUISE MCILROY (Glasgow).

The Significance of the Wassermann Reaction in Gynæcological Diagnosis.

Dr. MCILROY communicated the results of an investigation conducted by Dr. H. Ferguson Watson, Dr. J. Hamilton McIlroy, and herself to ascertain the importance of syphilis in the diagnosis of pelvic disease in women. One hundred out-patients, mostly taken from the respectable working class, had been examined by the Wassermann reaction. Only six of these showed evidence of gross syphilitic disease, and yet 49 gave a marked positive reaction. Three patients gave a doubtful reaction, and 48 only were distinctly negative. Amongst the 49 positive cases 41 were married and eight single, whilst the 48 negative patients were all married. These results suggested that the reaction should be carried out also in the case of the children of these patients, and she had been surprised to find that in seven of the negative cases the children had given a positive reaction. The speaker observed that these results demonstrated the remarkable latency of syphilis. Only six patients had shown evident signs of the disease, and yet 50 per cent. of the women examined were undoubtedly tainted. Her results also showed the marked hereditary nature of the disease. She thought that the reaction should be performed as a routine part of the examination of all gynæcological patients and that a systematic investigation on these lines would throw considerable light upon the nature of chronic metritis, fibrosis uteri, and the menorrhagia of puberty. In conclusion, Dr. McIlroy wished to put in a strong plea for the compulsory notification of syphilis, in view of the extreme frequency of the disease and the amount of suffering that it entailed.

Dr. SCHLIMPERT was astonished at Dr. McIlroy's figures and could hardly believe that 50 per cent. was correct. He asked what antigen had been used in the tests. In the case of 400 patients examined at Freiburg some years ago only 10 per cent. gave a positive reaction.

Mr. BECKWITH WHITEHOUSE (Birmingham) was amazed to hear that 50 per cent. of Dr. McIlroy's patients were syphilitic. He thought that Scotland must be a very terrible place if these figures were substantiated. He would like to know details of the test employed. He quite agreed that syphilis was probably an important factor in some cases of fibrosis uteri and had previously referred to this fact.[1]

Dr. A. LEITCH (London) thought that 50 per cent. was a gross overstatement and also required details as to the technique employed.

Dr. MCILROY, in reply, said that the lecithin cholesterin method had been used and that the results in all cases had been checked by Dr. Carl Browning and Dr. Ivy Mackenzie. She did not feel therefore that there was any ground for doubt as to the veracity of the results that she had brought forward.

[1] THE LANCET, April 17th, 1912.

Dr. SCHLIMPERT read a paper and gave a demonstration upon

The Serum Demonstration of Pregnancy by Abderhalden's Method.

The test depended upon the fact that when albumin was injected into the blood proteolytic ferments were developed which split the albumin into peptones and amino-acids. Abderhalden originally described two methods of technique—viz., (1) the optic method, and (2) the dialysation method with the biuret reaction. Many fallacies occurred with the latter and Abderhalden now recommended "Ninhydrin," or triketohydrindenhydrat as the indicator to be employed. This was the method that had been adopted in Germany and which had given the best results. The material required for the test consisted of a dialysing apparatus, placental tissue, coagulated and free from all hæmoglobin, "Ninhydrin," and the serum to be examined. It was important that the serum be collected in the early morning, since amino-acids were developed in the blood after the ingestion of food and might give rise to a false reading. It was also equally important that the serum be absolutely free from all red corpuscles, since if the least hæmolysis was present the liberation of ferments would render the material useless. The dialysers must be tested before use as to their impermeability to albumin and their permeability to peptone. Placenta and serum were then placed in the parchment bag of the dialyser and sterile water in the outside jar. The vessel was incubated at body temperature for from 12 to 16 hours and the dialysate tested for amino-acids by "Ninhydrin." A violet colouration indicated a positive reaction. Unfortunately, the technique was difficult and many pitfalls existed. Dr. Schlimpert had investigated both human and animal sera. In the latter only one fault occurred amongst 79 cases. 237 human sera had been examined. In the earlier cases many failures occurred from faulty technique. Amongst the last 79, however, no mistake was noted. In the present state of knowledge the speaker regarded a negative result as of prime importance, but a positive required care, and the test should be repeated to confirm the same. If fever was present, for example, the result might be doubtful. The test was undoubtedly valuable for the very early diagnosis of pregnancy. It was present from the second or third week, and might therefore be useful in the case of early tubal gestation. The reaction disappeared about the second week after the uterus was emptied, and therefore could not be employed in the diagnosis of the cause of hæmorrhage where abortion was suspected.

Dr. J. HENDRY (Glasgow) emphasised many of the difficulties in the way of the successful performance of the test. Only dialyser sacs prepared for Professor Abderhalden's institute should be used, and it was quite common to find that only 30 per cent. of those sold were reliable. Another great difficulty was to obtain blood-free placenta. Physiological saline should be used and not water to wash the placental tissue. Also, it must be boiled free of peptones before each test. Altogether it was necessary to boil 15 or 16 times for 15 minutes. Finally, "Ninhydrin" was almost too delicate as an indicator, and great care was necessary in interpreting the results. The speaker also referred to the extraordinary results that Abderhalden had obtained with this test in cases of eclampsia. He had shown that negative results mean a bad prognosis and *vice versâ*.

Dr. LEITCH had been very favourably impressed with his experience of the Abderhalden test. Undoubtedly, many fallacies arose from faulty technique. Dialysation tubes were by no means perfect as yet, as shown by using the same strength of peptone in the control tubes. If four or six controls were made, however, this fallacy was removed.

Dr. MURRAY referred to Dr. Richard Pearce's method of performing the test in a test-tube without the use of any dialysation apparatus. He had used it with good results. In technique he considered that one of the most important points was absolute asepticity. Another of almost equal importance was the collection of the serum in the early morning, to which Dr. Schlimpert had referred. To obtain the serum hæmoglobin-free was a difficult matter.

Dr. SCHLIMPERT, in reply, said that the best way to obtain hæmoglobin-free serum was to allow the blood to stand in a refrigerator for from 2 to 3 hours. Amino-acids and polypeptides might be removed from the serum by dialysation for 5 to 6 hours.

Dr. T. H. IONIDES (Hove) read notes on a case of

General Peritonitis due to the Appendix and Complicating Pregnancy.

The patient collapsed after induced delivery. At the necropsy the abdomen was found full of blood, and a tear was present in the small intestine. Adhesions had been torn off the uterus during its contractions. Dr. Ionides asked if in a similer case pregnancy should be allowed to go to term, and if the fœtus were removed what was the best method to employ.

The case was discussed by Dr. SCHLIMPERT.

International Clinical Travel by Specialist Groups.

Dr. DICKENSON, in a short paper, entered a plea for the development and establishment of societies for the purpose of international clinical travel. Something further was wanted than post-graduate courses, excellent as they were in London, Vienna, Berlin, and Paris. What he advocated was the formation of specialists societies, each limited in number, and consisting of carefully picked men. Such societies as the British Visiting Gynæcological Society and the Visiting Surgical Society exactly represented what the speaker intended. A similar combination existed in America, as the New York Obstetrical Society. This society had visited almost every important clinic in New York and Philadelphia. This year they had visited Germany, and next year they hoped to come to England. The value of such a society was great, because it led to straight and candid expressions of opinion, such as could not take place in a large and mixed assembly. Furthermore, it led to the adoption of all that was best in the work and technique employed in the various clinics visited. Theoretical had to give way to practical points, and, above all, the leaders of the profession knew where to send their assistants to study the latest and best advances in any particular branch of our science.

STATE MEDICINE.

WEDNESDAY, JULY 23RD.

President, Dr. E. W. HOPE (Medical Officer of Health of Liverpool).

The first session of this section was occupied in discussing the subject of

The Prevention and Treatment of Tuberculosis.

The discussion was opened by the PRESIDENT of the section, who specially referred to those exceedingly important and interesting aspects where prevention and treatment might be said to join hands. The cure of a case of open tuberculosis was a preventive measure in the same sense that the term might be applied to small-pox or typhoid fever. It implied that there was one less focus of infection. As a preventive instrument the sanatorium must occupy a position of as great usefulness in regard to tuberculosis as hospitals for ordinary infectious diseases had proved to be. The speaker deplored the tendency to obscure preventive measures by rival and extravagant claims of cure which excited great temporary enthusiasm followed by the disappointment, not to say despair, of the sick and their friends. This especially applied to the tuberculosis dispensary or institute, the object of which was to facilitate early diagnosis and undertake special treatment, but had been in danger of losing a great deal of its useful public influence by the enthusiastic advocates who proclaimed that forms of treatment of a specific kind carried on in connexion with it must certainly result in recovery. The speaker alluded to the closing of the "Friedmann" Institute in New York, and concluded by declaring that the advocates of prevention were fully alive to the necessity of doing everything which human ingenuity and skill could do for the relief of sufferers from tuberculosis.

Dr. H. O. WEST (tuberculosis officer for the county of Kent) followed with a paper on

The Functions of the Tuberculosis Officer,

which he dealt with from three points of view. 1. In relation to the central public health authority the tuberculosis officer ought to be a clinical expert on the staff of the medical officer of health responsible to him alone as his chief. He should be regarded as a consulting physician, dealing only with the clinical treatment of patients and leaving all sanitary questions to the medical officer of health. In his opinion it would be much better if these officers were Members of a College of Physicians rather than holders of a diploma in public health. 2. As to the relations between the tuberculosis officer and the general practitioner, both should meet in consultation, and in the case of insured persons, unless institutional treatment was decided on, the domiciliary treatment should be left in the hands of the general practitioner. With regard to uninsured persons who were for the time being treated only in dispensaries, no patient should be accepted for treatment unless authorisation was received from the practitioner in charge of the case. 3. As regards his dealings with patients, the tuberculosis officer should be recognised as a consultant, and his visits and treatment regarded as matters of some favour. He thoroughly agreed with the suggestion of the Tuberculosis Committee that every two or three years the tuberculosis officer should have a period off duty for going back to hospital in order to keep in touch with modern methods and modern research.

Dr. A. D. SERRELL COOKE outlined the treatment by tuberculin as it was carried out by Dr. Wilkinson, laying special stress on the method of increasing the dose as rapidly as possible so long as the patient could tolerate it, and not only increasing the dose by a definite ratio, but gradually increasing the increase. By this method they had much reduced the time necessary for a successful result. The cases were selected by excluding extreme cases and those of mixed infection, and by this means they were enabled to treat 75 per cent. of all those coming to them, and claimed successful results in 70 per cent. of the cases so treated. Types of cases treated were pleurisy, phthisis, tuberculous glands, sinuses, skin, bones, and joints. If patients had not improved in three or six months when they presented themselves again, they were re-tested, and if necessary re-treated. In reply to an inquiry as to what was his criterion of success, he mentioned restored energy, increased vigour and capacity for work without being tired, and diminished cough without entire disappearance. He believed that patients with cavities in the lungs might be considered as carriers of the disease, though practically cured, as it was impossible entirely to empty these cavities of their infectious contents.

Dr. DUNCAN FORBES (medical officer of health of Brighton) agreed with Dr. West that the tuberculosis officer should act as a consultant in clinical cases, but considered that he should also act as assistant to the medical officer of health in preventive work. In his opinion tuberculin would have to establish its reputation on its results in the treatment of cases showing bacilli in the sputum if the profession was to place faith in it.

Dr. J. MACKEITH (London) said he had noticed considerable improvement from tuberculin treatment in laryngeal cases and also in atrophic rhinitis, which he believed to be in most cases a tuberculous affection.

Dr. R. MURRAY LESLIE (London) strongly emphasised the view that tuberculosis ought to be diagnosed and treatment commenced before tubercle bacilli appeared in the sputum or physical signs could be detected in the lungs; in fact, in the closed stage before the disease became open. This was now possible owing to the use of X rays and other modern diagnostic methods.

Dr. A. GRIFFITH (Hove) said that one advantage of the discussion was that a definition had at last been received of what Dr. Camac Wilkinson and his assistants considered the criterion of success in tuberculin treatment. While recognising the value of Dr. Wilkinson's work, he could not agree with his statistics.

Dr. W. A. BOND (medical officer of health of the metropolitan borough of Holborn) dwelt on the causes of the decline of tuberculosis, and Dr. W. EWART (London) said that in all early cases of phthisis the clear indication was to combat the disease at its site, and with that view the possibilities of a form of apex treatment were now under consideration.

Dr. J. C. MCWALTER (Dublin) believed that sanatorium treatment was absolutely useless as a specific method for the treatment of tuberculosis.

The meeting concluded its business by passing the following resolution, proposed by Dr. T. B. HEGGS (Sittingbourne):—

That this Section of State Medicine recommends to the Council of the British Medical Association that representation should be made to the Government that in cases of tuberculosis receiving sanatorium benefit the sickness benefit provided should not lapse at the end of six months, but should continue so long as the patient is, in the opinion of the medical adviser to the Insurance Committee, unfit for work.

THURSDAY, JULY 24TH.

A most interesting discussion was held on

Port Sanitary Administration, especially with a View to the Prevention of the Introduction of Disease.

The first speaker was Dr. HERBERT WILLIAMS (medical officer of health of the Port of London). He pointed out that the first line of defence was often broken owing to the standard of hygiene being so much lower in many foreign countries than it was at home, and to the prevalence of endemic diseases in foreign ports, the indiscretion of the sailors of our mercantile marine in their choice of places of recreation, and the indifference of the inhabitants of some countries to the adoption of precautionary measures against infectious disease. He instanced the fact that people were often seen in some places abroad walking in the public street with scabs of small-pox on their faces. It was pointed out that the conditions on board ships were particularly favourable to the spread of certain infectious diseases, especially small-pox, owing to the equivocal symptoms during the invasion stage, and pulmonary tuberculosis, owing to overcrowding and inefficient ventilation, even in the passengers' cabins. The seamen's accommodation on many cargo boats was most wretched. Seventy-two cubic feet of space was allowed to each person as a minimum, but the bunks obstructed the light, so that the floor and the greater part of the space was in darkness; and in this space the men kept their clothes, oilskins, boots, &c., took their meals, and in many ships stowed their supply of food there. The light being insufficient was commonly supplemented by a cheap form of oil lamp, smoky and evil-smelling. It was warmed by a cheap form of stove, which was often defective, allowing fumes and smoke to escape into the quarters. The sanitary conveniences were of a most primitive type, iron troughs without any provision for flushing being general. At the end of a voyage these would be unapproachable, and their condition in the tropics might best be left to the imagination. The drinking-water on vessels might have been taken from a source infected with cholera or enteric fever, or persons who had drunk water from polluted sources might develop these diseases in the course of the voyage. Rats on board ship might be infected with plague and spread the disease to human beings through the agency of fleas. Yellow fever also might be developed through the agency of mosquitoes, which retained the organism in their bodies for considerable periods. Dr. Williams then mentioned the legal powers at present in force for dealing with ships at ports of arrival, and pointed out that under the present regulations it was possible for persons on board a vessel arriving from a port infected with plague, yellow fever, or cholera to leave the vessel before the visit of the Customs officer or the port medical officer without any offence being committed. Under such circumstances persons in the incubation stage of one of those diseases might come ashore, develop and spread the disease. Also persons coming from a port where small-pox was prevalent were allowed to land if well on arrival. There was an urgent need both for the improvement of the sanitary conditions on board ships and for further legal powers to deal with immigrants to this country from infected ports. And, further, as the work of port sanitary authorities was of an Imperial rather than a local nature, and was effective for the whole country, their expenses in connexion with the inspection of vessels and foodstuffs should be met by an Imperial contribution, and not borne entirely by the port.

Major R. W. H. JACKSON, R.A.M.C. (Weymouth) referred to the insanitary conditions under which sailors often dwelt when ashore, which he thought were as bad in some places as the conditions existing at sea. He advocated legislation for dealing with the sanitation of ships.

Dr. F. A. FOY (port health officer, Rangoon) considered that a medical inspection of all vessels arriving in port was the only really effectual measure for preventing the introduction of disease. The expense was, no doubt, apparently great in proportion to the results to be achieved. He had found that the ratio of cases of plague discovered to persons inspected during eight years was only 1 in 90,000, but even at this rate he considered the measure would be worth while adopting.

Mr. GILBERT E. BROOKE (Singapore) thought that the following essentials should be insisted on in dealing with this question: (1) Measures should be taken at the port of departure rather than at the port of arrival, if possible; (2) uniformity of international procedure, in order to facilitate commerce, especially standards of imposition and removal of quarantine; (3) uniform bills of health (international) to replace the present nondescript documents; and (4) the establishment of two British bureaux of information, one in London and one in Singapore, to collect and disseminate prompt and reliable information of infectious disease in both hemispheres.

Dr. HEGGS thought that Board of Trade inspectors should have proper sanitary experience.

The PRESIDENT believed that this discussion was most important as calling attention to the very valuable and indispensable work done by port sanitary authorities in keeping intact the first line of defence, a point of view which he thought was apt to be overlooked. There was no doubt that one debt which they owed to port sanitary authorities was the immunity which they enjoyed from small-pox, cholera, and plague.

Dr. WILLIAMS briefly replied to the remarks of the various speakers.

A paper was read by Dr. FOY on

Deratisation in the Port of Rangoon,

in which he gave details as to the methods adopted for destroying plague-infected rats. The three methods adopted were: (1) By compressed sulphurous acid gas in cylinders (this he considered a suitable method for use in very small launches or in small ports where the Clayton apparatus was not available); (2) by burning sulphur—very effectual against mice and cockroaches); and (3) by the Clayton apparatus, which was the most efficient method.

FRIDAY, JULY 25TH.

The PRESIDENT opened a discussion

On the Need for Popular Education in Matters Affecting the Public Health.

He remarked that few people realised the enormous saving of human life that had taken place in the last 30 years or so, but it could be stated that if the rate of mortality in 1880 had continued to the present day upwards of a million and a half of people in the British Isles who are now alive would have been in their graves. This was reflected in the business of the life insurance companies, who were calculated to be paying less by 25 per cent. than they expected to pay on the policies of the insured. He thought it was remarkable that the older universities who should know all about Greek culture and about the sanitary code of the Mosaic periods should have shown so much apathy in the matter of sanitary reform. It was left to the University of Edinburgh to establish preventive medicine as a science and to give degrees in the subject. The Universities of Dublin and of Cambridge soon followed suit, and at the present time he believed that every university in this country—certainly in Germany—had its chair of public health or its professor of hygiene. They should endeavour to form a healthier public opinion. The method of enlightening the people on matters of health which was very popular in Germany and had lately been introduced into this country was by exhibitions such as that held not long ago in Dresden, which dealt with such matters as quarantine, school hygiene, and the hygiene of various trades and industries, water-supplies, &c., and which attracted millions of people during the six months for which it was open. An exhibition of a similar character held in Liverpool recently had attracted 40,000 people in one week. Another adroit move on the part of Germany had been an exhibition illustrating the condition of the town of Cologne in 1873 and at the present day, forming an object lesson in sanitary reform. In conclusion, the speaker referred to the demand for a Royal Commission on venereal disease, and hoped the section would take action in the matter.

Professor H. R. KENWOOD (London) considered that education authorities had not yet fully realised their interests and duties in educating the public. Our system of education should provide some hygienic training, and some information should be given to the older girls on the subject of domestic hygiene, including infant care, even at the expense of such a subject as geography. It was better to educate the prospective mother while at school rather than

the actual mother in later years. He thought the appointment of health visitors a most important step in the direction of educating the people. He referred to two great problems which sanitary authorities were attempting to solve, a pure milk-supply and hygienic housing, and believed that the key of the situation was in the hands of the general public, who, by their failure to demand clean milk and by allowing milk to get so much contaminated in the home, were mainly responsible for the evil consequences of dirty milk; and, as to "housing reform," that greater efforts should be made to reform the occupants, as individuals without hygienic habits were but little benefited by sanitarily constructed premises.

Dr. TOM WILLIAMS (Washington, U.S.A.) detailed the steps which had been taken by a committee on public instruction which had been formed in Washington. They relied chiefly on the following methods of arousing public interest in sanitary reform: Public lectures; special conferences, such as the International Congress on Tuberculosis at Washington; special articles in the public newspapers, written by experts; the premium method. The difficulties they had to contend with were public indifference; medical apathy, especially among the older generation of practitioners; medical vested interests, having regard to the fact that as a rule in the country districts of America the doctor was druggist also, and had an interest in the sale of drugs; and what he might term the "bottle cult"—the belief of the laity in curing all the ills that flesh was heir to by drinking a bottle of medicine. He referred also to the difficulties connected with sensationalism, illustrated by the successful establishment in New York for a time of the Friedmann Institute.

Dr. MURRAY LESLIE considered that the cinematograph was a most useful means of educating the public in sanitary reform.

Dr. F. E. WYNNE (medical officer of health of Wigan), said that one of the chief duties of health officers was education; they had to educate their committees, property owners, employers of labour, shopkeepers, and midwives, as well as the general public, who were more receptive of education than was sometimes supposed, as shown by the comparative ease with which the idea of the open window was assimilated by the consumptive, and especially in the successful educational work done in improving housing conditions on the principles inaugurated by the late Miss Octavia Hill.

Dr. MCWALTER said that people nowadays were being so spoon-fed they would do nothing for themselves. It was necessary to establish a health conscience in the people, and to impress on them that really true hygiene consisted in self-knowledge, and self-reverence, and self-control. He would prefer to aim at broadening the outlook of life rather than a mere prolongation of years.

Major JACKSON also spoke, and the PRESIDENT summed up the discussion in a few closing remarks.

A resolution was unanimously passed containing a recommendation to be forwarded to the Council of the British Medical Association, endorsing the views expressed by recognised leaders of the medical profession in regard to the question of venereal disease, and strongly advocating the appointment of a Royal Commission to inquire into this subject which so largely affects the public health.

ELECTROTHERAPEUTICS.

WEDNESDAY, JULY 23RD.

President, Mr. W. DEANE BUTCHER (Ealing).

After a few preliminary remarks by the PRESIDENT, Professor C. G. BARKLA (London) delivered an introductory address on

The Secondary X Ray Radiations in Medicine.

He gave a detailed explanation of each of the three types of secondary radiation excited by the X rays—namely, scattered X rays, fluorescent X rays, and corpuscular or electronic rays. The scattered X rays consisted of the radiation emitted by all substances when traversed by Roentgen radiation, such radiation being of the same type and same penetrating power as the primary radiation itself. The fluorescent X rays consisted of the secondary radiation of a penetrating power differing from that of the primary radiation which excited it. In addition to these two kinds of radiation, however, bodies when exposed to the X rays emitted a corpuscular or electronic radiation, which, like the beta radiation from radium, consisted of negative corpuscles or electrons, hurled out of certain atoms of the substance traversed by the primary X rays. All the evidence went to show that it was to this secondary radiation must be attributed all observed physical, chemical, and therapeutic action, with the exception, perhaps, of a slight heating effect in substances which absorbed X rays. This, however, was inappreciable except by very delicate methods of observation. He showed the essentials for the production by Roentgen radiation of any measurable effect in an organ traversed by that radiation: there must be, first of all, a transformation of the energy of Roentgen radiation into energy of corpuscular radiation; then in addition this corpuscular radiation must be absorbed by the organ to be treated.

Dr. REGINALD MORTON (London) read a paper on

The Present Position of the X Ray Diagnosis of Pulmonary Tuberculosis.

After showing how the general attitude of the profession had so much changed during the last few years, Dr. Morton attributed this to the much superior work now done by radiologists. It was the result of greater experience and vast improvements in skill, technique, and apparatus. Basing his remarks largely upon a discussion recently held in the Section of Electrotherapeutics of the Royal Society of Medicine, he thought that it was now very generally admitted that in a large proportion of cases the X ray method could anticipate a clinical diagnosis, and that where a clinical diagnosis had been made, the X ray method would show almost invariably a wider extension of the disease than was supposed. Instances were given where the clinical signs and symptoms were so slight as to make any positive diagnosis out of the question, and yet in a large proportion of these the X ray method gave a positive, and in others at least a tentative diagnosis of tuberculosis.

Dr. A. F. HERTZ (London) read a paper suggesting some

Normal Standards for the X Ray Examination of the Alimentary Canal.

After advocating the general adoption of a uniform meal of bismuth or barium for all cases, he then gave rules for determining the presence or otherwise of stasis.

This paper gave rise to considerable discussion, and finally, on the motion of Dr. C. F. BAILEY (Brighton), it was unanimously decided that one definite type of standard meal for radiographic examination should be adopted by general consent, and that the Electrotherapeutic Section of the Royal Society of Medicine should be asked to appoint a committee to obtain evidence with a view of suggesting this official standard meal. A copy of the resolution was formally handed to Dr. Reginald Morton, President of the Section of Electrotherapeutics, Royal Society of Medicine, who undertook to take personal charge of the matter and to see that it was acted upon.

Dr. A. C. JORDAN (London) read a note on

Cardiospasm

—spasmodic contraction of the cardiac end of the œsophagus—a condition that has not long been recognised. After pointing out the advantage of the X rays in diagnosis of the condition, he demonstrated the method of treatment, which consisted in getting a special form of pneumatic dilator through the constricted orifice. The dilator is then inflated and slowly withdrawn. Improvement is immediate, but usually it is necessary to repeat the procedure at intervals before anything that could be called a cure was obtained. As to the nature of the condition Dr. Jordan considered it to be a disease *per se* and not a symptom of some other abnormality; but in the subsequent discussion Dr. WILLIAM HILL (London) said he had never met with a case of primary cardiospasm, and he very much doubted the existence of such a condition.

Dr. W. IRONSIDE BRUCE (London) described the use of collargol in assisting the X ray diagnosis of renal conditions, and also explained the method of ureteral catheterisation as practised by Mr. J. W. Thomson Walker. Several slides were shown illustrating how clearly the pelvis of the kidney could be shown and departures from the normal readily recognised.

THURSDAY, JULY 24TH.

Dr. C. F. BAILEY (Brighton), in a paper on

Electrotherapeutics in Neuron Lesions,

referred to various recent advances in our knowledge of the structure and functions of the nervous system, and pointed out that our more extended acquaintance with nerve physiology and histology tended more and more to confirm theoretically the value (which had been proved in practice) of electro-therapy in the treatment of pathological conditions of the nervous system. He attributed a larger portion than had been hitherto insisted on of this value to reflex arc conduction of the nerve impulses initiated by electric stimuli, and showed how afferent impulses which might be set up would have an extensive and widespread influence in maintaining the integrity and promoting the repair of the nervous system. He considered that by keeping neurons in a state of activity, albeit an imperfect activity, by electricity, they would recover more rapidly than if left at rest. He mentioned a practical point, that the clumsiness which was often a feature of the hyper-protopathic sensibility, occurring late after a successful nerve-suture of a nerve such as the ulnar, was greatly relieved for a time by the interrupted current given by the warm bath method with intermitting periods of rest.

Dr. H. LEWIS JONES read a paper on

The Use of Condensers in Electrical Testing.

Following up his work on the use of condenser discharges in diagnosis, he now wished to advocate the use of the same discharges for treatment. While much had been done to improve the induction coil of late years the fact remained that such currents were disagreeable except when of such small magnitudes as to be of little practical use—especially for the treatment of paralytic conditions and the new treatment for obesity, where the demand was for a method of stimulation that could set up vigorous muscular contractions with a minimum of sensory effect. Condensers provided a means of obtaining waves of current which were shorter than those of any induction coil, and experience had shown that condensers were admirable for producing painless muscular contractions. He then showed an apparatus for making convenient use of such currents. It consisted of an electric motor provided with a condenser commutator and a rhythmic interrupter. The former was so arranged that it charged the selected condenser from the main and then discharged it through the patient. The interposition of the rhythmic device caused the impulses to rise and fall in magnitude in the way that had been found most suitable when treating paralysed muscles. As a general rule he found that small condensers charged from a high voltage gave better results than large condensers charged from a low potential.

Dr. LEWIS JONES also read a note on

The Treatment of Corns and other Callosities by Ionisation.

The method consisted of ionising the growths with zinc. The latest views were to the effect that many or most of such growths were of microbic origin and not merely due to friction. The method had given very excellent results in his hands, and he considered it preferable to any other he had tried.

Dr. E. P. CUMBERBATCH (London) read a paper on

The Results of Muscle Testing by the Condenser Method.

He showed the great superiority of the method over that of the coil and constant current formerly employed. The various degrees of degeneration of muscle could be identified more or less readily, and it was now possible to ascertain the progress of a case with some degree of accuracy. While much had been learned about the new method, there were some points that arose from time to time that showed our knowledge to be incomplete, and further study and investigation were necessary.

Dr. J. D. HARRIS (Exeter) explained a method of employing

Secondary X Rays in Connexion with Ionisation.

He drew attention to a case, described at the Birmingham meeting, of epithelioma affecting the lower jaw of a child which absorbed under the influence of long sittings of X rays in which secondary X rays emanating from the expanded bone appeared to have an important bearing. Cases were related in which the curative effect of the X rays appeared exhausted, after first producing a satisfactory result. The object of this paper was to show that this exhausted curative action seemed capable of restoration by ionisation. To establish this, cases were related: 1. Of ulceration of the scalp after removal of a papilloma surgically, which at first did well with X rays, but on failing to heal permanently, ions of zinc were introduced until the thin skin which healed over the ulcer refused to allow the ions to pass into the granulations. X rays were then resorted to, and when smaller and smaller ulcers broke open in the cicatricial tissue zinc ions were again introduced, followed by X rays, which again produced healing. 2. Of superficial lupus of the nose, in which similar alternate treatment produced healing. 3. Of scaly lupus of the bridge of the nose and an ulcerated papilloma on the upper lip, both existing in one patient. The scaly lupus quickly gave way to X rays alone, whilst the ulcerated papilloma was much benefited by X rays at first, but failed to respond until the ions of zinc were introduced. The alternate treatment ended in complete healing and disappearance. 4. Of a form of superficial ulceration of the left nipple in a woman 70 years of age, in which the alternate treatment proved successful in healing after zinc ions alone had failed. 5. Of tubercular ulcers of the skin. 6. Of a small penetrating rodent ulcer of the alæ of the nose in a sailor aged 80 years. 7. Of a tuberculoma of the skin of the chest involving caries of the cartilages of the first and second ribs. 8. A case of actinomycosis of very severe type was also cited in which a solution of potassium iodide was repeatedly injected hypodermically as well as taken by the mouth, and the seat of the disease subjected to X rays immediately after injection: in this case resolution occurred with very little loss of tissue. The opinion was ventured that the renewing of the success by X rays, when that was lost, was by secondary X rays emanating from the ionised solutions, which were not merely *on* the tissues but *in* them. The system pursued was essentially two or three sittings with ionisation of ten minutes' duration a week apart, followed by two exhibitions of X rays one or two weeks apart of a length of time suitable to the kind of case. Thus superficial tuberculosis would require five minutes' exposure once a week, whilst a rodent ulcer would receive 15 minutes' once in three weeks.

Dr. F. H. HUMPHRIS (London) read a paper on

Electricity in the Reduction of High Arterial Tension.

He pointed out the importance of recognising a pathological blood pressure and the advantages of being able to reduce it by means of electricity; at the same time he deprecated indiscriminate interference with a condition which might be of actual benefit to the patient. He described a simple electrical means of clinically differentiating between those cases in which attempts should be made to lower the pressure and those which it was better to leave alone. The form of electricity which Dr. Humphris preferred for reducing blood pressure was the auto-condensation couch of d'Arsonval, but he used a multiple spark-gap with nine gaps. With the apparatus which Dr. Humphris fully described, he was able to give the patient a current of from 1000 to 1500 ma. in the patient's circuit, and the sphygmomanometric reading afterwards would show the pressure to have fallen 10 per cent. Dr. Humphris advanced the view that arterial tension did not of necessity increase with advancing years, but although this condition usually obtained, the increased pressure was due to something erroneous in the patient's habits or pathological in his system.

Dr. T. LEWIS (London) gave a description of the

Electrocardiograph and its Use in Medicine.

He explained the method of taking simultaneous electrocardiograms and heart sound records. The method, he said, was particularly valuable, because it gave a very exact idea of the time relations of heart sounds. He illustrated the method by showing lantern slides of normal heart sounds and the common murmurs. The chief topic of the paper was the character and time relations of the murmurs in mitral stenosis. He said: When the heart's mechanism is normal, the murmurs fill diastole (when the heart-rate is fast or the stenosis is severe), or occupy presystole or presystole and early diastole (when the heart-rate is slower and the grade of stenosis is less). The presystolic murmur is not usually crescendo; the crescendo quality is given by the accentuation of the first sound. When the auricles fibrillate, the murmurs fill diastole in the short cycles, or in

all the cycles, when the heart-rate is fast; they lie in the early diastole of the long cycles and are confined to early diastole when the heart-rate is very slow; under the last-named circumstances the murmur may be separated from the preceding second sound by a short interval of silence. An isolated presystolic murmur is not found when the auricles fibrillate. The relation of the diastolic murmurs of mitral stenosis to the auricular contractions when heart-block is present shows that these murmurs are largely controlled by the positions of the auricular contractions. The explanation of all the diastolic murmurs of mitral stenosis is to be found in a study of the differential pressures between the auricle and ventricle, and therefore in the velocity of flow through the mitral orifice.

FRIDAY, JULY 25TH.

Dr. AGNES SAVILL (London) gave notes of two cases of

Fibroma

cured by the X rays (Bordier's method). She was not altogether in favour of the technique as advised by Bordier, and considered that there was an element of risk of producing radio-dermatitis that militated against its more general adoption. Apart from this there were some deferred changes, such as telangiectases and other local trophic troubles. The later method of Bordier advocated giving nine exposures on nine successive days just after the menstrual period. Dr. Savill went on to test the relative efficiency of screens made of aluminium, felt, lint, and lint that had been treated by sodium tungstate in the manner advocated by Dr. Reginald Morton. It was found that 12 layers of felt, four layers of tungstated lint, and 3 mm. of aluminium gave almost the same filtering value, but she expressed a preference for the prepared lint.

Sir A. PEARCE GOULD opened a discussion on

The Use of the Gamma Radiations in Surgery.

In the course of his very interesting address he laid down some important principles that had been arrived at in the cancer research laboratories at the Middlesex Hospital. The first was that the emanations of radium check cell growth, and have a direct action on the nucleus. This checking action is much greater on malignant cells than normal ones, and is about 20 times greater than on the leucocyte. Further, it has more influence at the moment of division than during the resting stage. The second great principle was that the radiations could check the growth of the cancer cell without destroying the immunity reaction, but that it was possible to push the dose to the extent of destroying not only the cell but also the immunity reaction. These principles must always be borne in mind when using radium, since they showed that, while it had an immense power for good, it was capable of doing much harm. With regard to the treatment of quite superficial malignant ulcers, he did not think that radium had any advantage over the X rays, but it was more valuable than the latter for more deeply-seated lesions. For these he considered it essential that the radium be introduced into the growth—it was not sufficient to place it on the surface—and he cited cases showing the extreme value of this procedure. Finally he urged the necessity for caution and reserve in speaking of the value of radium, especially in the treatment of malignant growths.

The discussion was carried on by Dr. ROBERT ABBE (New York), who was inclined to take a more optimistic view of the value and future prospects of radium He illustrated a series of results obtained in his experiments with seeds of various plants, and he found that while radium exerted a destructive action under certain conditions it was easy to obtain stimulation and retrograde action by suitable variations in the method adopted. In his opinion the gamma radiations of the X ray tube and those of radium were not the same. In support of this he showed photographs of a case of chronic X ray dermatitis that was cured by radium applications. He also showed photographs of the larynx of a lady who had lost the use of her voice through the presence of papillomata on the vocal cords. With the use of radium complete restoration of the speaking and singing voice had been obtained. He also pointed out that there were dangers attending the use of radium, especially through overdosage, which often caused a great deal of pain that was difficult to alleviate.

Dr. F. HERNAMAN-JOHNSON (Darlington) read a paper on

The Indication for X Ray Radiation Before, During, and After Operation for Cancer.

He said: The commonly accepted dogma that operation should always take place immediately on the diagnosis of cancer ought to be subjected to fresh examination in the light of present knowledge. Surgical interference always involves a risk of disseminating malignant cells. If all the cells of a cancerous growth are in a depressed state at the time of operation they will have less chance of establishing themselves at a distance in face of the normal opposition of invaded tissues. A very moderate amount of radiation is capable of producing a temporary depression in cancerous elements; three weeks' pre-operation treatment is sufficient for the purpose. The statement sometimes made to the effect that normal tissues which have been subjected to X rays do not recover well after surgical trauma is not true unless the radiation has been excessive. On the contrary, healing is promoted. When pain and ulceration are present pre-operation raying should be insisted on. The patient can in a few weeks be placed in a much better state to withstand operation. For this the opportune moment must be seized before the crest of the wave of improvement is reached. It must be recognised that the benefit to be derived from X rays is in most cases not permanent, and to delay calling in the surgeon until relapse is in sight is fatal to the patient's chances. The suggestion made by Dr. Morton to the effect that a heavy dose of X rays should be delivered into operation wounds before the flaps are closed should be carried out wherever possible, and this should be done even if it turns out that the tumour cannot be removed. As to post-operative or preventive raying, this should be commenced as soon as the patient has recovered from the immediate shock of the operation. This rule applies, however, only to cases which have not received preparatory treatment. Here, further radiotherapeutic measures may safely be delayed for from three to four weeks. Delay is otherwise dangerous, because the foundations of metastatic mischief are probably often laid during the weeks immediately following operation. In cases in which the surgeon considers the patient's chances are fair as a result of operation alone, prophylactic raying should rather aim at stimulating the resisting power of the tissues than attempt to attack wandering cancer cells directly Short courses, separated by intervals of several weeks, are best for this purpose. When, however, recurrence is confidently looked for within a few months the radiologist must pursue a bolder policy. Treatment should include not only the original site of the disease, but all those parts and organs which experience teaches us are likely to be the seat of metastatic growths. Radiotherapy is not a substitute for operation, but neither is it a mere adjunct to surgery. Every case of cancer should be from the outset treated jointly by a surgeon and a radiologist; but the latter, if he wishes to rank as the equal of his colleague, must be a student of disease no less than of electrical technique.

Dr. FRANK FOWLER (Bournemouth) dealt with

The Technique of the X Ray Treatment of Cancer.

The reason of failure in the treatment of deep-seated cancer was the fact that the dose that reached the part was insufficient. This could be increased by (1) increasing the skin-focus distance; (2) by cross-fire; (3) by filtration; or (4) by the use of very hard rays. In the past they had been misled by physicists who had advised the use of rays as soft as possible; in practice very hard rays were found to have definite effects, although almost entirely unabsorbed. The dose must be measured after filtration, as error and confusion had arisen from the practice of measuring the dose above the filter. If treatment was thoroughly carried out ulceration should never occur, and mediastinal infection was rare.

Dr. G. B. BATTEN (Dulwich) read a paper on

The X Ray Treatment of Ringworm.

After referring to the various modifications of technique that had been introduced, he described a method devised by himself which had the effect of saving a great deal of time as well as the life of the tubes—an important matter where many cases had to be done. He also showed a special form of tube-holder for carrying out the method he advised.

Professor NAGELSCHMIDT (Berlin) read a paper on

The Electrical Treatment of Nutritional Disorders.

The method advised had special reference to the treatment of obesity as advocated by Bergonié.

The Section now adjourned to the room used by the Section of Gynæcology and Obstetrics for a joint discussion of

The Treatment of Uterine Fibroids.

This was opened by a paper from Professor GAUSS (Freiburg), who described the radiotherapeutic treatment of gynæcological cases at Freiburg. The technique employed consisted in giving massive doses of filtered rays directed towards the uterus from many different points. It was found that the uterus could be reached by a beam of rays from about 40 different points without going through any part of the skin more than once. Consequently the danger of damage to the skin was reduced almost to vanishing point, while the results obtained had been nothing less than phenomenal, failure being practically unknown, and this without any special selection of the cases. Naturally certain cases were not suitable for treatment, and other means were adopted for such. The excellence of the results obtained by Professor Gauss was endorsed most frankly by Dr. HANS SCHLIMPERT (Freiburg), who stated that at present such cases were almost unknown in the operating theatres as a result of Professor Gauss's work.

The discussion was continued in the afternoon.

TROPICAL MEDICINE.

WEDNESDAY, JULY 23RD.

President, Lieutenant-Colonel Sir WILLIAM LEISHMAN, R.A.M.C.

In opening the meeting the PRESIDENT observed that presidential addresses at the sections were not encouraged by the Association, so that he would at once proceed to call upon Dr. G. BASIL PRICE (London) to begin the discussion placed first on the programme, namely, on

The Causes of Invaliding in the Tropics.

Dr. Price stated that he had made a statistical investigation on this subject, and by means of forms sent out to the missionary societies he had obtained a considerable amount of information as regards the causes and amount of invaliding which had occurred among the men and women working in the tropics in the missionary field. There was a wide variation in the circumstances of different countries as to temperature, humidity, presence of endemic diseases, mosquitoes, and insanitation, and among the various classes of workers, so that the factors, apart from climatic conditions, were somewhat diverse. The habits and idiosyncrasies of individuals had also to be considered. The impulsive, enthusiastic, but easily depressed persons could not stand the strain. In his inquiries the lives of 1479 mission workers abroad had been analysed. Among other diseases which played a disastrous part neurasthenia was not an infrequent cause of invaliding in the Far East; and in China of late years, for example, the tendency to this no doubt had been exaggerated by the general "upset" following upon the revolutionary disturbances and the mob law that had prevailed in certain places. Dr. Price emphasised the need for healthy recreation as a means for preserving mental health. West Africa was above the average in respect of mental diseases. The capacity to bear nerve strain should be considered in the selection of candidates for posts in the tropics. Isolation from friends and over-pressure of work were trying to the nerves of most people. He attached much importance to the after-effects of the acute infectious diseases as leading to invaliding. Pulmonary tuberculosis could to a large extent be eliminated by careful medical examination of candidates before they went abroad. Medical examination of such persons should in all cases be as stringent as for life insurance purposes. Instruction in hygiene was essential for those proceeding to the tropics. The value of quinine in malaria and the adoption of vaccination against small-pox and enteric fever should be specially impressed upon the candidates.

Colonel R. J. S. SIMPSON, A.M.S. (ret.), said the records of the Army Medical Department showed that malaria, dysentery, and fevers produced a certain amount of invalidity, and that Mauritius, West Africa, and Southern China were responsible for much of the malaria. But it could be said with truth that tropical diseases by themselves produced only a relatively temporary disability. It was surprising how few soldiers, comparatively, were invalided from India owing to these maladies. As regards invaliding for non-tropical diseases, he placed nervous and mental diseases in the front rank, followed by tuberculosis, affections of the special senses (including those of the eye), and diseases of the heart, these causes being equally effective at home in invaliding. Neurasthenia was found in officers serving at home as well as those in the tropics. Responsibility pressed more hardly on some men than on others. Maladies affecting the digestive system (including hernia) were to be regarded as important. Pyorrhœa alveolaris and defective teeth were liable to give rise to serious digestive and other troubles, and could not always receive the attention of a competent dentist in the tropics. When sanitation and the knowledge of tropical diseases have been advancing, their effects have been observable in the more recent statistical returns.

Dr. W. F. LAW (British Guiana) contributed to the discussion by sending a paper which was read by the secretary of the section. Dr. Law's experience related chiefly to persons employed on the estates and sugar plantations of British Guiana. Invaliding was a question closely connected with the problem of colonisation of tropical lands by the European. Although some authorities did not take the same view, his opinion was that the causes of invaliding were primarily climatic. Much could be done by carrying out works of improvement to reduce the liability to certain diseases. Apart from climatic conditions the causes which led to invalidity in British Guiana were malaria and influenza (the latter since 1890); dysentery was not now so common as at one time, and enteric fever had been rare until recently when there had been a considerable prevalence in Georgetown. Besides the acute infectious disorders, nervous affections, heart diseases, and anæmia caused the most invaliding. Stress of work and the lonely life led by some men on plantations induced depression of spirits and led to the temptation to obtain temporary benefit by the use of alcohol. Sanitation would no doubt lessen the amount of future invaliding. He urged a long rest after acute malaria, and advised Europeans to make a periodical return to a temperate climate from time to time. More attention should be paid to the early symptoms of malarial fever and to the prophylactic daily dose of quinine.

After the reading of these three papers the subject was freely discussed by the section, and among those who took part in this interesting debate were Dr. CHAS. F. HARFORD (Livingstone College, Leyton), Dr. G. DUNCAN WHYTE (Swatow), Major W. S. HARRISON, R.A.M.C. (London), Dr. MALCOLM WATSON (Federated Malay States), and Dr. M. CAMERON BLAIR (Northern Nigeria).

In closing the discussion the PRESIDENT adverted to the very important question of deciding whether an invalid after convalescence should be permitted to return to his post in the tropics. It was difficult sometimes to decide whether it was safe to let individuals go back to the place where they had contracted their malady. To forbid it altogether might mean to some men the termination of a useful career and deprivation of means of livelihood, or the loss to the service of a promising officer. Sometimes medical opinions were divided on the case, and he had known instances where the patient settled the matter himself by returning to his post and taking all the risks.

Dr. PRICE and Colonel SIMPSON briefly replied.

Sprue.

Mr. J. CANTLIE (London) contributed a series of observations on sprue, describing certain symptoms which he thought did not find mention in the text-books, including rise of temperature some weeks before the fatal termination of the case took place, muscular spasm or tetany, and an agonising neuralgic affection of the anus. He discussed also the causes and treatment of the disease. He had hopes that some benefit might follow treatment by a new preparation of silver, colossol, from which he had recently been obtaining good results.

After some remarks by Major HARRISON and the PRESIDENT, and Mr. CANTLIE having replied, the proceedings terminated for the day.

THURSDAY, JULY 24TH.

The section was occupied during the whole sitting with a discussion on

Dysentery.

Captain S. R. DOUGLAS, I.M.S. (ret.), introduced the discussion by reading a paper in which he gave an epitome of the work done in recent years by investigators on this subject, more particularly on the amœbic form of the disease, including the life-history of the entamœbæ causing dysentery in man, the cultivation of pathogenic amœbæ, experimental work on animals, the occurrence of the disease in Europe among persons who had never been outside their own country, the rarer complications of the malady, and the treatment of amœbic dysentery. As regards the treatment by emetine, recently advocated by Major L. Rogers, I.M.S.,[1] it had the advantage of being as effective as that by ipecacuanha without giving rise to any disagreeable effects such as vomiting or depression of the heart.

Mr. J. GRAHAM WILLMORE and Mr. H. SAVAGE (Egypt) contributed jointly a paper, which was read by Mr. Savage, on the

Effects of the Serum Treatment of the Bacillary Form of Dysentery.

The epidemiology was briefly discussed and the danger at present existing of the introduction of the infection into Western Europe and elsewhere by Mohamedan pilgrims returning from Mecca was pointed out. The authors urged that dysentery should be added to the list of diseases respecting which international regulations have been framed (cholera, plague, and yellow fever). The authors' experience was gained chiefly at the quarantine station of El Tor, where clinical and bacteriological examination of cases was made and treatment carried out. The Turks appear to be the race which is the most susceptible to bacillary dysentery, but the Turkish authorities take no precautions whatever against it, permitting on all sides fæcal contamination of water and food. The authors recognised three forms of dysentery—the amœbic, the bacillary, and a combination of the two. The serum treatment was applied in bacillary cases. Agglutination experiments were carried out and serum was tested against four main types of bacilli. Shiga's bacillus did not appear to be very common at El Tor. Massive doses of serum were recommended twice daily and continued for ten days to prevent relapses. Improvement was, as a rule, quickly observed as soon as the serum treatment had been begun. A number of tables were shown giving the results of the authors' observations and experiments.

Dr. C. M. WENYON (London School of Tropical Medicine) contributed a paper, which was in his absence read by Dr. F. W. O'CONNOR, one of the secretaries, on

The Morphology of the Intestinal Amœbæ,

and which was of a highly technical nature. Description was given in detail of the various stages through which amœbæ, pathogenic and non-pathogenic, pass. Explanation was offered of the differing forms and stages of development which these parasites undergo and how they are affected by the existing contents of the intestines of the host.

In the important discussion which followed the reading of the three papers the following members took part—namely, Major HARRISON, Major HOUGHTON, R.A.M.C., Lieutenant-Colonel W. MOLESWORTH, I.M.S., Dr. M. CAMERON BLAIR (Northern Nigeria), Major R. W. JACKSON, R.A.M.C. (ret.) (Weymouth), Lieutenant-Colonel H. W. D. LEAHY, I.M.S. (ret.), Dr. MALCOLM WATSON (Federated Malay States), Professor v. WASIELEWSKI (Heidelberg), and the PRESIDENT.

After Captain DOUGLAS and Dr. SAVAGE had briefly replied, the section adjourned to the Pathological Museum, where a demonstration was given of amœbæ by Professor v. WASIELEWSKI (Leiter der Wissenschaftlichen Abteilung des Instituts für Krebsforschung und a.o. Professor von Hygiene an der Universität, Heidelberg). Specimens of entamœbæ were also exhibited by Dr. P. H. BAHR (Ceylon). This concluded the business for the day.

FRIDAY, JULY 25TH.

A discussion was opened by Dr. G. C. LOW, of the Tropical Diseases Bureau, London, on

Filariasis.

He briefly reviewed the literature on human filariasis published during the past two years. It was mentioned that the geographical distribution of the filariæ had received considerable attention, as also had morphology and the points of distinction between the different species of embryos. But it appeared that little had been done to elucidate the pathology of the disease, though it was admitted that something had been done as regards chyluria and as to various obscure suppurative conditions originated by the presence of the parasites in the human tissues. With respect to elephantiasis several new operations had been proposed for the cure or relief of that distressing condition. Leiper had succeeded in discovering the intermediate host of filaria loa, the embryos of which were found by him to undergo their developmental cycle in the salivary glands of biting fleas of the genus Chrysops (C. dimidiata and C. silacea). The stages of their development are much like those that occur in the embryos of F. bancrofti in the mosquito. One of the most promising lines suggested for future investigation is that of the epidemiology of the disease. Such questions as hyperfilariation, the duration of the life of the embryos in the blood, and the pathology and pathological anatomy of the diseased conditions produced, are also of equal interest. Though several theories have been put forward, it is not yet definitely known how the so-called "Calabar swellings" are produced. The general question of eosinophilia is also suggested as a subject for further research. Dr. Low concluded by pointing out that there is yet a fruitful source of investigation awaiting anyone who likes to take up the subject of human filariasis.

Dr. BAHR gave an account of his special investigations of filariasis in Fiji, and described some microscopical specimens he had prepared and which he invited the members of the section to examine in the Pathological Museum at the close of the meeting. He said that when a filaria died in the human tissues it acted like a foreign body, causing irritation and giving rise to production of toxins. Filarial abscesses were common in Fiji. He suggested a number of points needing further investigation. It is worthy of mention that Dr. Bahr as well as an assistant contracted filariasis while conducting the inquiry in Fiji.

The discussion was continued by Professor v. WASIELEWSKI, Dr. DUNCAN WHYTE, Dr. R. FLEMING JONES (British New Guinea), Dr. CAMERON BLAIR, Dr. MALCOLM WATSON, Dr. CHARLES FORSYTH (Hong-Kong), and the PRESIDENT.

After Dr. LOW and Dr. BAHR had replied, a paper was read on

Dengue and Phlebotomus Fever

by Lieutenant-Colonel CECIL BIRT, R.A.M.C., in which the symptoms, geographical distribution, and causation of the two diseases were compared. There appeared to be some similarity in several respects between dengue and phlebotomus or sandfly fever, and the same might be said also of yellow fever. There were certain grounds for grouping the three diseases in one and the same class; they were caused by distinct but closely related kinds of virus.

This paper was discussed by the PRESIDENT, Dr. LOW, and Dr. FLEMING JONES, and Colonel BIRT then briefly replied.

Before adjourning to the Pathological Museum to attend the demonstration of filaria promised by Dr. BAHR, the PRESIDENT, in a short speech, summed up the proceedings of the three days, and in a few concluding remarks spoke of the help given by the two sectional secretaries, Dr. E. Curwen (Hove) and Mr. F. W. O'Connor (London School of Tropical Medicine).

Dr. CAMERON BLAIR then proposed a vote of thanks to the President, and this, after being seconded by Dr. DUNCAN WHYTE, was carried by acclamation. The demonstration of filariæ by Dr. Bahr concluded the proceedings of the section.

[1] THE LANCET, Oct. 19th, 1912, p. 1062.

LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

WEDNESDAY, JULY 23RD.

President, Dr. A. J. HUTCHISON (Brighton).

Dr. WILLIAM MILLIGAN (Manchester) opened a discussion on the

Technique and After-Treatment of the Radical Mastoid Operation.

Dr. Milligan spoke of the importance of a detailed examination of the functional activity of the labyrinth prior to the performance of the radical mastoid operation and of the risks of a "radical" operation in cases of diffuse purulent (latent) labyrinthitis, and the possibility of converting a circumscribed into a diffuse serous or purulent labyrinthitis.

If latent labyrinthitis were present, either no mastoid operation or a complete mastoidectomy and labyrinthectomy should be done. Incomplete operations were dangerous. He discussed the methods of closing the Eustachian tube, the preparation of the patient and of the operation area, the various methods of opening the mastoid antrum, with hammer and gouge, or gouge without hammer, or with burrs, and their several advantages and objections. As regards the after-treatment, he dealt successively with the methods of packing, the use of spirit drops, of "scarlet red," of allantoin, of skin grafting, and of the blood-clot treatment. These various methods were statistically compared. He had found the blood-clot dressing satisfactory, but an aseptic cavity was necessary. In acute cases, in which the bacteria were more virulent, this form of treatment was less suitable.

Dr. DUNDAS GRANT (London) insisted upon a constant supervision of the after-treatment either by the operator himself or by an experienced assistant. Amongst the difficulties to be contended with, in his experience, in the after-treatment were the formation of a web, of exuberant granulations in the region of the facial canal, which might be reduced by the galvano-cautery, and stenosis resulting from the flaps. He spoke of the advantages of at times leaving the meatus to itself.

Dr. WILLIAM HILL (London) spoke of the importance of having an experienced assistant; the good result was then put down perhaps to the use of iodine; with incompetent assistants in the after-treatment the case might require three months to heal.

Sir ROBERT WOODS (Dublin) had given up shaving the hair since the introduction of iodine. He did not trust peroxide of hydrogen; he had known it cause emphysema of the tissues and diffusion of septic products.

Dr. W. JOBSON HORNE (London) urged simplicity of the operation and simplicity of the after-treatment. There was a tendency to dress these cases too frequently and do too much at each dressing. If the operation were done deliberately and thoroughly less would be required in the way of after-treatment, and the parts could be left more to themselves. Speaking from his own experience, he had got good results from simple technique; and so long as he got similar results he was not disposed to give up well-tried measures for others of a momentary fashion. He inquired of Dr. Milligan the percentage of cases which showed labyrinthine complications prior to the radical mastoid operation.

Dr. ANDREW WYLIE (London) also urged personal attention by the operator to the after-treatment of the wound. He objected to new-fangled methods; he used the old-fashioned iodoform and glycerine in the after-treatment.

Dr. NEIL MACLAY (Newcastle-on-Tyne) inquired when the ear might be regarded as wet and when dry. After the "scarlet red" treatment he had found many ears still suppurating.

Dr. W. S. SYME (Glasgow) regarded the treatment of the Eustachian tube as the all-important factor in the whole treatment of the case. "Scarlet red," in his opinion, was not sufficiently satisfactory to be tried. He had great hesitation in using the galvano-cautery in the tympanum.

Mr. F. W. SYDENHAM (Walsall) did not regard it safe to seal up the pharyngeal opening of the Eustachian tube. If both ends were sealed up a potential cavity would be formed.

Mr. E. D. D. DAVIS (London) was in favour of closing the Eustachian tube.

The PRESIDENT, in summing up the debate, said that certain points which might have been assumed had had importance given to them in the debate; one was that the operator should either attend to the after-treatment himself or leave it in the hands of only a very competent assistant, and in illustration of this cited a case which had been left in the hands of a practitioner, without the latter's wish, in which obstruction followed the operation through the formation of granulations consequent upon the daily application of chromic acid.

Dr. MILLIGAN, in his reply, favoured the closing of the naso-pharyngeal orifice of the Eustachian tube. To really eliminate the aural opening of the tube necessitated curetting down to the bone, and that meant a danger of opening the carotid artery and of serious hæmorrhage; further, the mucous glands of the tympanum were situated at the tympanic orifice of the Eustachian tube, and the obliteration of that orifice entailed the removal of the mucous glands. Emphysema following the use of peroxide of hydrogen he regarded as a mare's nest. The percentage of cases showing labyrinthine symptoms prior to the radical mastoid operation from his own statistics and previous investigations would be about 2 per cent.

THURSDAY, JULY 24TH.

Mr. HERBERT TILLEY (London), in conjunction with Sir ROBERT WOODS (Dublin), opened a discussion on

The After-treatment of Operations on the Nose and Naso-pharynx.

Mr. TILLEY in his opening remarks spoke of the necessity for cleansing the nasal passages prior to operation with the galvano-cautery and the application of an antiseptic to the eschar. After anterior turbinectomy two complications had to be guarded against—post-operative hæmorrhage and septic infection; the latter might lead to inflammation of the tonsil or middle ear. After the removal of the posterior end of the inferior turbinal the chief complication was post-operative bleeding which might occur as late as the seventh or eighth day. Post-operative bleeding after the submucous resection of the septum might be minimised by careful packing of the nasal cavity after the operation. He gave a warning against the use of nasal douches as a means of cleansing the nasal cavity, and advised a coarse nasal spray in their place. A due interval of time between successive operations for the removal of nasal polypi was necessary when the cold snare was used, and the use of the galvano-cautery after removal by the snare was to be avoided. Curettement of the ethmoidal region for polypi was a more serious operation. In conclusion, Mr. Tilley summarised his remarks to the effect that operations within the nasal cavity or in the naso-pharynx were little liable to complication and demanded little in way of after-treatment if the parts were rendered as aseptic as possible previous to operation, the surgeon's instruments were aseptic, and free drainage was provided for.

Sir ROBERT WOODS in his opening remarks dealt with the question of anæsthesia. He favoured the use of cocaine as quite safe and safer than chloroform; if the latter were given it should be preceded by ether. In the application of cocaine the upright posture did not cause symptoms to recur. It was the quantity of the fluid that was used and not so much the strength which caused untoward symptoms. As regards "hæmorrhage" following the operation, he thought it better to use that word to denote excessive bleeding and to restrict the word "bleeding" for loss of blood up to a point. Excessive bleeding after the removal of the posterior ends of the turbinate bodies might be arrested with light packing. Plugging the posterior nares had fallen into disuse. He prescribed 20 grains of the chloride or lactate of calcium. If a hæmatoma formed after submucous resection of the septum it had to be opened. With the exception of hæmophilia and the removal of naso-pharyngeal fibromata extreme hæmorrhage was unusual.

Dr. W. H. KELSON (London) was opposed to meddlesome surgery in the nose, and regarded it as a cause of trouble in the after-treatment. Packing he regarded an evil; it interfered with drainage after the submucous resection of the septum. He passed a small suture through the anterior inferior angle of the flap and left it there for 24 to 48 hours.

Dr. JOBSON HORNE congratulated the section upon the choice of the subject for discussion. The fact that the subject had suggested itself for discussion indicated that the results of intranasal operations were, perhaps, not so gratifying as some would have them believe. The unsatisfactory results he attributed to a lack of ceremony in the performance of these minor operations and over-eagerness on the part of those desirous of doing all they could for their patients. There was a tendency to create the impression in the minds of patients that these operations were of such a trifling nature that they could go about their business immediately afterwards. This gave rise to prolonged healing, "trimming up," and repeated operations and unsatisfactory results. It was far better to keep the patients in bed and control their movements. Oral sepsis and the patient's general condition were important contributors to bad results and were often overlooked.

Mr. SOMERVILLE HASTINGS (London) prescribed chlorate of potash, salicylate of soda or aspirin a day or two before operating to prevent sepsis in the mouth and to relieve pain.

He had had no difficulty with ether anæsthesia. Cocaine he found occasioned shock.

Dr. P. WATSON-WILLIAMS (Bristol) spoke in favour of a 20 per cent. solution of cocaine used as a spray as an anæsthetic; he never used chloroform, and had not used it for 20 years in nasal operations.

Mr. MAYO COLLIER (London), whilst acknowledging the experience of the openers of the debate, inquired whether it were wise to be guided by the experience in these matters of one or two men. He said there were principles axiomatic and cardinal which must be accepted and acknowledged. He then dealt with points in the anatomy of the nose bearing on the discussion. Hæmorrhage arose from negative pressure, and to prevent it the wings of the nose should be kept open; he was opposed to packing, to spraying, and to washing out the nose. The nose would not stand irritating lotions.

Dr. G. L. CRIMP (Walton-on-Thames) referred to the pain, deafness, and swelling in the drum of the ear, which at times he had noticed after the operation for the removal of adenoids. He questioned the advisability of inflating the ears before a fortnight had elapsed after the operation.

Dr. SYME, speaking of the after-treatment of operations on the accessory sinuses, said he washed out the antrum of Highmore before operating, and he injected into the cavity through the cannula a 10 per cent. solution of cocaine in 1 in 1000 solution of adrenalin. He did not entirely avoid packing the cavity, but he never packed after ethmoidal operations. He urged the personal attention of the surgeon in the after-treatment of ethmoidal and sphenoidal sinus disease.

Mr. SYDENHAM cited cases of meningitis following removal of the turbinal bodies, and of hæmorrhage every three or four days until arrested by tying the carotid artery after the removal of the posterior ends of the inferior turbinals.

Professor KENT WHEELOCK (Fort Wayne, Indiana, U.S.A.) described his method of preparing the nose for the submucous resection operation.

Dr. H. S. BURKITT (Montreal) inquired the experience of those present in the after-treatment of nasal operations by means of suction apparatus.

Mr. H. CHILD (Exeter) spoke of some of the unpleasant effects experienced by patients after cocaine anæsthesia.

Dr. MACLAY prescribed calcium lactate in 20-grain doses some days before operating.

Mr. G. JACKSON (Plymouth) used novocaine instead of cocaine.

Mr. J. W. KILLEN (Londonderry) used novocaine for operations upon the septum and cocaine for sphenoidal and ethmoidal operations.

The PRESIDENT, in summing up, said the discussion had somewhat wandered owing to the introduction of the technique of the operations. He favoured rest after nasal operations, and considered that a patient ought not to be allowed to go too soon into a train, a taxi, or a cab.

Mr. TILLEY replied. Packing he regarded as an evil, but a necessary evil. He never injected cocaine.

Sir ROBERT WOODS also replied.

Professor OWEN RICHARDS (Cairo) read a paper on

Rhino-scleroma.

The paper was illustrated by a series of lantern slides showing the various stages of the disease and the disfiguring ravages it perpetrated on the nose and adjacent parts.

Mr. TILLEY inquired whether the disease was met with in natives alone.

Sir ROBERT WOODS forecast that the treatment would ultimately be by means of a drug, possibly along the lines of "606."

Dr. JOBSON HORNE inquired the age incidence and whether it was only observed in young adults.

Dr. HILL inquired whether radium or X rays had any effect in arresting the disease.

Mr. JACKSON asked whether the disease was peculiar to Egypt.

Professor RICHARDS in his reply said that the disease, so far as he knew, had nothing to do with syphilis, and that it was possibly due to some organism not hitherto found. The bacillus commonly associated with the disease was not the cause. He had not met with it in English residents in Cairo. The cases were chiefly young adults when they first came under notice. He could not speak of the effects of radium or the X rays upon the disease. His own investigations of the disease had been limited to Egypt.

Dr. HILL demonstrated a New Form of Oro-Tracheal Catheter for Administering Anæsthetics without Admission of Blood to the Air Passages.

FRIDAY, JULY 25TH.

Mr. JOHN F. O'MALLEY (London) read a paper entitled

Suggestive Points of Analogy in Otosclerosis and Arthritis Deformans.

He arrived at the conclusions that otosclerosis was osteo-arthritis of the stapedio-vestibular articulation and of the bony labyrinthine capsule and that these processes were the result of a common pathogenesis. He was of the opinion that the essential factor underlying the morbid changes was a chemical one, but as to how these chemical disturbances were actually initiated, like other observers who had arrived at similar conclusions, he was not able to explain.

Operations on the Tonsils.

Mr. G. SECCOMBE HETT (London) read a paper entitled, "The Physiology, Anatomy, and Embryology of the Palatine Tonsils."

Dr. H. G. BUTTERFIELD (London) demonstrated micro-photographs of sections of tonsils illustrating how the normal tissue was replaced by the products of inflammation.

Dr. JOBSON HORNE regarded the enucleation of the tonsils as an excellent operation which some of them had been performing for years in suitable cases and with excellent results, but it was not suitable or even necessary in every case of enlargement of the tonsils. On the contrary, he was of the opinion that the tonsils had a definite function as the first line of defence in preventing systemic infection, and that enlargement might indicate that they were discharging that function. On the other hand, when they became enlarged as the result of disease they were a source of danger to the individual, and removal was indicated. At the present time there was a danger of enucleation falling into disfavour with the general public.

Dr. FREDERICK SPICER (London) protested against any statement going forth that the old method of removing tonsils was unjustifiable. He was of the opinion that tonsillotomy as usually practised was quite sufficient in a large number of cases.

Mr. SYDENHAM expressed himself desirous of hearing more about the function of the tonsil.

Mr. O'MALLEY was also desirous of being further informed about the function of the tonsils, and inquired whether it was justifiable to remove the tonsils when the cervical glands were enlarged, and also whether the glands became enlarged after the tonsils had been removed.

Mr. JACKSON inquired whether the tonsils were to be regarded in the same light as the vermiform appendix in carnivora.

Dr. SYME reminded his listeners that the tonsils drained the nasal as well as the oral cavity.

Mr. HETT, in his reply, stated that he had come to ask what was the function of the tonsils. He was of the opinion that the tonsils had no function after the first few years of life. At times he had regretted not having removed the tonsils at the same time as the adenoids. Children, in his opinion, were not more liable to infection after the removal of the tonsils.

Dr. BUTTERFIELD also replied.

Dr. A. MAURICE (Paris) contributed a paper which was read by Dr. F. HOWARD HUMPHRIS (London), and demonstrated his apparatus for

The Re-education of the Power of Hearing.

In a sentence, the treatment consisted essentially of electrically exciting sound waves.

The general expression of opinion of those present was that the method of treatment ought to be investigated, and until that had been done any opinion on its utility or otherwise would be premature.

Dr. HUMPHRIS, replying for Dr. MAURICE, was understood to state that the instrument was identical with that of Zund Bourguet. In reply to inquiries how the apparatus could be obtained, he declined to accept any responsibility for the commercial aspect of the matter.

Dr. JOBSON HORNE read a paper entitled

Tumours of the Ventricle of the Larynx.

The paper dealt with prolapse of the mucous membrane lining the ventricle, solid pedunclated tumours of the

ventricle, including the cystic variety which was rare, true cystomata of the ventricle, and papillomata were touched upon. Malignant disease starting in the ventricle was mentioned. The granulomata resulting from tuberculosis and syphilis were included, and lastly, an unusual condition of lipomatosis of the ventricular band was described. The paper concluded with some reference to the treatment of these conditions. A series of lantern slides illustrating the tumours referred to and their etiology was demonstrated.

The paper was discussed by Dr. G. C. CATHCART (London), Mr. DAVIS, and Mr. SPICER. Dr. JOBSON HORNE, in his reply, supplemented his remarks bearing upon the treatment.

The proceedings terminated with a most cordial vote of thanks to the President, which was carried by acclamation.

OPHTHALMOLOGY.

WEDNESDAY, JULY 23RD.

President, Mr. T. H. BICKERTON (Liverpool).

The PRESIDENT, in his introductory address, said that the 81 years of life of the British Medical Association had been synchronous with the development of ophthalmology as a distinct specialty, with its own expert practitioners, its own meetings, societies, and journals; and with the recognition of the specialty there had been creation of special posts at general hospitals and the formation of special hospitals. Much of this advance was due to the generous recognition they had received at the hands of the Association, and he felt proud to have the honour of presiding over the section on the eighty-first annual meeting.

The proceedings opened with a discussion on

School Clinics and the Prevention of Myopia,

introduced by Mr. JOHN HERN (Darlington). He said the importance of the care of the eyes had at last been recognised by the educational authorities and the State, for they had school medical inspection and school clinics at which the treatment of errors of refraction was undertaken. The importance of satisfactory correction of these errors for the prevention of eye-strain and the development of myopia could not be over-estimated, and he thought that some of his cases showed that early correction of myopia could result in the cure of the condition.

Dr. A. F. MACCALLAN (Cairo) read a paper on

Ophthalmic School Clinics in Egypt.

An elaborate system of school inspection had been introduced into parts of the country for the prevention and relief of trachoma. The disease was rife in the schools; in some parts as high an incidence as 96 per cent. of affected children was found. Early treatment of new pupils had proved most satisfactory. At the beginning of the school year 55 per cent. of the new pupils were affected; by the end of the session the incidence had been reduced to 9 per cent.

Dr. E. MADDOX (Bournemouth) said that myopia was in a sense an adaptation to circumstances, and by this he meant the concentration on school books. Special schools for myopes had been tried privately but unsuccessfully, owing to the opposition of parents.

Dr. T. HARRISON BUTLER (Coventry) said that German statistics showed no reduction in the incidence of myopia after continuous medical care, but it was admitted that cases were more common in the educated classes. Yet what had been termed malignant myopia was more frequent in the labouring classes than in the cultured. He discussed the theories put forward for the causation of myopia, and concluded that at the present they had no certain basis on which to work.

Dr. J. A. WILSON (Glasgow) cited figures showing the occurrence of myopia in adults of varying occupation, and concluded there was no evidence that close work had a profound influence. His figures showed more myopia in women than men, and more in charwomen than clerks.

Mr. N. BISHOP HARMAN (London) repudiated the applicability of the German statistics to England, and recommended the study of the wealth of material that had been gained by medical inspection at home. The theories that had been cited were in some instances ridiculous—e.g., the idea that the optic nerve dragged on the globe and distorted it, or the refusal to recognise the effects of extra-ocular pressure in convergence. He gave an account of the myope classes that were working in London, where the problem of the education of the myope had been effectively grappled with, and he believed that the extension of these same methods to infant schools would be attended with a marked reduction in the incidence of myopia.

Professor J. E. WEEKS (New York) agreed that close work tended to produce myopia. It was unknown amongst the untutored American Indian and almost unknown amongst white infants. It was more prevalent amongst those who did book work than those who did fine manual work. There were many contributory factors, but book work was probably the determining one. He had never seen a case of myopia get better, and doubted the possibility.

Professor R. A. REEVE (Toronto) said that he had never seen a real myopia disappear. Occasionally astigmatism was mistaken for myopia, for astigmatic patients found concave glasses sharpen vision. Philadelphia figures had been collected to show that there had been a decline in the incidence of cases there.

Mr. J. H. PARSONS (London) thought there was a fundamental weakness in the sclera, but that did not eliminate contributory causes; he said these were proved. He thought that pressure of the extrinsic muscles was most important; any intra-ocular experiment showed that it was impossible to eliminate this unless an efficient drug was used. The improvement in the methods and conditions attending school life was invaluable, and he cited the report of the British Association on school books as a step in the right direction.

Lieutenant-Colonel R. H. ELLIOT, I.M.S., said he had never seen myopia disappear. In Madras there was certainly a vital factor in the production of the condition, excessive work and poor food. Much good was being done by Government interference on behalf of the people and to an extent that few realised in this country. Trachoma he found common amongst wealthy Mahomedans and Brahmins, and this he attributed to the communal use of cosmetics.

Dr. W. B. INGLIS POLLOCK (Glasgow) agreed in the immense effect exerted on the globe by muscle pressure. The occupational statistics quoted by Mr. Butler and Dr. Wilson were in his experience quite wrong. He granted the great effect of general bodily health, but agreed with Mr. Bishop Harman that they could exercise greatest influence on the incidence and increase of the condition by the proper regulation of school work.

Miss M. GILCHRIST (Glasgow) said she had found myopia appear as early as 2 or 3 years of age. Prevention was facilitated by the accurate correction of astigmatism.

Lieutenant-Colonel W. G. PRIDMORE, I.M.S., said that myopia was very common in Burma amongst males, whose height of ambition was to be in a Government office, and they were very studious. The girls did not study, and escaped myopia.

Dr. MADDOX read a paper on

Supra-Corneal Sutures and an Operation for Conical Cornea.

To protect the eye in case of injury to the cornea, or when elliptical portions were removed to flatten the eye in conical cornea he was accustomed to cut flaps in the conjunctiva and draw these over the cornea, securing them with sutures that lay upon the cornea. He found them well tolerated, but there must be no knot or crossed suture in contact with the cornea.

The PRESIDENT thought the method very useful.

Mr. C. DEVEREUX MARSHALL (London) and Lieutenant-Colonel ELLIOT commented on the procedure.

Dr. WILSON read a paper on

Nystagmus chiefly of Ordinary and Non-miners Type.

He found that ametropia was a constant condition, and that the movement bore a definite relation to the degree of ametropia. He suggested that ametropia was equivalent to the dim light of a mine.

Dr. BUTLER and Professor WEEKS commented on the paper.

Mr. BISHOP HARMAN showed

A Variable Test-type Particularly Adapted for use in Schools.

The signs were block E, such as used by Hirschberg, but only one was used for each grade of the test. The signs were mounted on turntables, so that their position could be varied indefinitely. In one model the whole were geared so that movement of a milled head caused all to turn in different directions. The signs were to be considered as three *fingers*, and the child was taught to distinguish the position of a

given sign by holding out its fingers. The test had had considerable usage and was found of great value in testing defective children, for it required the minimum mental response. The test card is made by Messrs. Curry and Paxton of London.

Mr. BISHOP HARMAN also showed

A Typometer for Measuring Print.

He said the report of the British Association on school books had necessitated some simple mode of making small measurements with ease. The instrument shown gave a high magnification of the print and a quarter millimetre scale simultaneously. It was made by Messrs. Dixey and Wingate of London.

Mr. BISHOP HARMAN also showed

An Attachment for Presbyopes who Habitually wore Distance Spectacles.

It consisted in two small D-shaped lenses set in a frame with a double bridge, the whole so arranged as to be slipped between the distance glasses and the face and provide temporary bifocal glasses. It had no hooks or handles and could be put in position and removed by one hand. This was also made by Messrs. Dixey and Wingate.

THURSDAY, JULY 24TH.

Dr. HARRISON BUTLER opened a discussion on the

Treatment of Chronic Dacryocystitis.

He said that it was a remarkable fact that the treatment advocated by Anel and Percival Potts in the eighteenth century was for the most part the best-known treatment of to-day—i.e., regular syringing. Later on this excellent practice was forgotten, and there were introduced crude modes of treatment that had only recently been done away with. He distinguished between the causes and treatment of lacrymal obstruction in infants and adults. The former was nearly always due to incomplete patency of the duct, which could be remedied by the use of the probe once and one or two syringings on subsequent occasions. In adults it was probable that very many cases were due to chronic inflammation of the ethmoidal cell. In the East it was commonly due to trachoma, and then the only treatment was excision; probing or syringing was dangerous. He deprecated the practice of slitting up the canaliculus; it destroyed the natural action of the punctum; also styles were of doubtful utility. He discussed Toti's operation for producing an artificial communication between the sac and the nose, and said that though ideal it was very difficult and tedious. The method of excising the sac was discussed.

Lieutenant-Colonel R. H. ELLIOT, I.M.S., said at his clinic 900 cases of excision had been done in the past nine years with the best of results. 78 per cent. had been removed entire, and in only 0·55 per cent. had a second operation been necessary. Any form of prolonged treatment, such as lavage, was impossible in India.

Mr. C. HIGGENS (London) said that he had done Toti's operation and thought it excellent, but it was certainly very lengthy.

Dr. J. MCREYNOLDS (Texas) had seen good from the judicious use of large probes.

Mr. S. H. BROWNING (London) spoke of the use of bacterial vaccines. Pneumococci were the most frequent invading organism, and for these vaccines were of little value; but for cases of streptococcal and staphylococcal origin vaccines were often of great value.

Dr. ELLETT (Memphis) described a method of rapid dilation of the duct at a single sitting.

Professor WEEKS said cases of tuberculous origin were not common in his experience. In excision the main difficulty was the hæmorrhage; it could be checked by local use of adrenalin provided the tissues beyond the legitimate area of the operation were not injured. Troublesome epiphora might remain, which was serious with private patients, but not serious with hospital patients. Sometimes it was necessary to remove part of the tear gland.

Mr. R. J. WHITING (London) spoke of the difficulty of distinguishing between diverticula of the sac and cysts of the ethmoid cells. Tapping the latter had produced fatal meningitis.

Dr. INGLIS POLLOCK said that it was not commonly necessary to excise the sac in private cases because these came for treatment early, when they were still amenable to lavage.

Mr. PARSONS thought that post-operative epiphora was in proportion to the duration of the dacryocystitis.

Mr. BISHOP HARMAN said he had demonstrated that this epiphora was in some cases due to the canaliculi acting as test tubes for the breeding of microbes. He made a routine practice of destroying these channels as the final step of the operation. The insertion of a probe into the sac formed the best guide during incision.

Mr. DEVEREUX MARSHALL said that concretions due to streptothrix were a frequent cause of trouble, and these were easily cured by expression and washing with mercurial solutions.

Dr. S. E. WHITNALL (Oxford) described the anatomical arrangements of the fascia covering the sac, and said that it was not rare to find a spicule of bone within it; there might even be a bony bridge.

Mr. CHARLES WRAY (London) maintained that local anæsthesia was quite sufficient for these operations; he agreed with Mr. Harman that a probe placed in the sac formed a valuable guide in operating.

The PRESIDENT said that in his opinion the routine excision of the sac was wrong. It was a confession of failure on the part of the surgeon. He detailed his methods of using styles, which afforded complete relief without any persistent epiphora such as was confessedly common after excision.

Dr. F. W. EDRIDGE-GREEN (London) read a paper on

A Criticism of the Board of Trade Eyesight Tests,

and moved the following resolution: "That the sight tests of the Board of Trade are not satisfactory, and that an inquiry is urgently needed in the interests of the mercantile marine and of the nation." He said that the tests both for form and colour were defective; they allowed defective men to pass and failed men who should pass. They were so uncertain that men never knew their position. He said that experience showed that at least 50 per cent. of the dangerously colour blind could pass the official wool test even in its modified form.

Mr. DEVEREUX MARSHALL seconded the resolution. He said the facts were proved; the Board was convicted out of its own mouth, for the inefficient lantern test which they had introduced, apparently as a last resource, increased their percentage of rejections from 0·8 to 6·2 per cent.

Mr. BISHOP HARMAN said that he had experimented with the three-colour lantern test of the Board and found that colour-blind persons could distinguish the colours by the variations in luminosity.

Dr. HARRISON BUTLER said that seeing an officer had to name colours at his work it was ridiculous that this naming test was practically barred in the official tests.

The PRESIDENT congratulated Dr. EDRIDGE-GREEN on his persistence in his excellent work. In his view "incomprehensible" and "Board of Trade" were interchangeable terms. Their failure was due to the fact that the testing was done by ignorant laymen who would fail to appreciate efficient tests.

Mr. PARSONS thought jeers at the Board beside the mark; he maintained that the criticisms levelled at the modified tests were made in ignorance of their real nature and of the report thereon. He agreed that medical men would provide the best examiners, but expense was a consideration.

Dr. W. H. BRAILEY (Brighton) said that the argument that appeals against rejections were few was no argument in favour of the Board's tests, for the men had to pay the costs of the appeal.

The resolution was passed with one dissentient.

Dr. INGLIS POLLOCK read a paper on the

Persistence of the Nerve Plexus of the Iris after Excision of the Ciliary Ganglion and of the Superior Cervical Ganglion.

The fact that there was this persistence argued that the plexus was of the same nature as the plexus of Auerbach and Meissner in the intestines.

FRIDAY, JULY 25TH.

Discussion on the Question of Excision in Cases of Injury to the Eye.

Mr. M. L. HEPBURN (London) opened with a paper on the Clinical Aspects. After detailing the variety and degree of injuries met with, he said that the question of excision was a wide one irrespective of the question of the liability to sympathetic disease. Even if there were no perception of

light in the injured eye it was justifiable to try to save the eye, for a blind eye was better than an artificial eye in that it presented less deformity and caused less bother. He attached no importance to the so-called "dangerous area" for wounds. Penetrating wounds were the most dangerous and the most liable to be followed by sympathetic symptoms. He considered the limit of temporising before excision in these cases was six or eight weeks; if irritation persisted to that time excision was necessary. He knew of no real distinction between sympathetic irritation and ophthalmitis; it was merely a question of degree.

Mr. R. AFFLECK GREEVES (London) followed, dealing with the Pathological Aspects. He had examined the eyes excised for injury at Moorfields for several years and found that the pathological features described by Fuchs were present in all those in which there had been a definite suspicion of sympathetic trouble. The pathological changes were typical and different from any other form of uveitis. The earliest date of the appearance of these changes was one week after injury; once it was as late as four years, and twice 24 years after. The really dangerous clinical condition he believed to be incarceration of the iris, lens, or vitreous. The injury need not necessarily be extensive; it might be in the cornea only. The true features of the disease were not found in cases of sympathetic irritation, and it was noteworthy that these symptoms were immediately checked on excision of the injured eye.

Mr. S. H. BROWNING (London) dealt with the Blood Conditions in Sympathetic Disease. There was a definite association of an increase in the large mononuclear cells with sympathetic ophthalmitis, a fact that suggested a protozoal origin for the disease. Acting on this indication, salvarsan had been used in treatment with good, even striking, success in some cases. Full and repeated doses were necessary.

Mr. BISHOP HARMAN dealt with the Case as Regards Children. He said that one's views were the effect of experience. His views were largely affected by the experiences of cases seen in the Blind Schools of London. As many as 16 children had come there blind from this one cause, and he maintained that there was no "conservative surgery" in permitting children to go blind for the sake of the uncertain benefit of saving an injured eye. With such an experience as these cases afforded he felt that they should take for their guide a variation of a Bible passage: "If thine eye offend thee pluck it out; it is better to enter into life with one eye than, having two, to be cast into the hell of blindness."

Dr. MADDOX considered there was a real importance in the "dangerous area"; 90 per cent. of the bad cases were due to injuries to the ciliary region. The extent of the injury was no guide to the liability to sympathetic trouble. In his experience it was most likely to appear in eyes that remained soft, and he suggested that raising the tension in such eyes might fortify them.

Lieutenant-Colonel ELLIOT deprecated an excess of surgical interference in injured eyes. Antiseptics, atropine, and rest afforded the best treatment. Further, if there was serious damage the eye should be excised; they had no right to throw the risk on the patient. Excision was difficult in the East owing to religious prejudices, and evisceration of the eyes was satisfactory if carefully performed.

Dr. MCREYNOLDS said that after an extended inquiry into the date of the onset of sympathetic irritation after injury he found that it varied from 10 days to 60 years. The maximum incidence was from four to eight weeks. Further, such irritation was by no means infrequent after the most careful intraocular operation, such as for cataract and glaucoma.

Dr. HARRISON BUTLER discussed the connexion of sympathetic irritation and ophthalmitis, and quoted a case that indicated that they were the same in nature. He disagreed with Mr. Harman in the seriousness of the prognosis in injuries to the eyes of children; they recovered well.

Mr. DEVEREUX MARSHALL said that in his experience children with injured eyes were very bad patients and caused great anxiety. He considered the treatment of sympathetic symptoms with salvarsan distinctly hopeful.

Professor REEVE paid a tribute to the work on the blood done by Mr. Browning. So far he had not had similar success with the method, but he hoped for better results. He agreed children suffered badly.

Mr. H. H. TAYLOR (Brighton) asked what the advocates of "conservative surgery" felt when they had a case of sympathetic and resultant blindness. It was far better to excise early than to take these serious risks.

Dr. BRAILEY gave an account of his method of checking the results of X ray examinations. He always fixed a piece of material of the same nature as to supposed foreign body to the eyelid. This gave a valuable check to the findings.

Lieutenant-Colonel PRIDMORE expressed agreement with Mr. Harman's views on injuries to children's eyes, and urged that no risks should be run.

Mr. WHITING detailed the case of a girl who had an eye grievously wounded 13 days before she was seen. Excision was done, but irritation was apparent in the other eye ten days later. Two injections of neosalvarsan checked the trouble.

The PRESIDENT said that injuries to the back of the eye had been described as free from the risk alluded to, but he had experience to the contrary. Perchloride of mercury he thought a bad antiseptic in any sufficient strength, for it was far too irritating.

A paper by Dr. A. F. MACCALLAN (Cairo) on

An Operation for Ectropion of the Lower Lid in Trachoma

was read by the Secretary.

Dr. HARRISON BUTLER read a paper on

Holth's Punch Operation for Glaucoma,

and showed an improved punch made to his design. He detailed the steps of the operation, and maintained it was easier and superior to trephining.

Dr. BRAILEY said he had done a similar operation for some time, using Harman's "twin-scissors" and snipping off the resulting scleral flap. He found it very successful.

Lieutenant-Colonel ELLIOT said the danger of the operation lay in the use of the keratome and the fact that the shelving incision weakened the eye.

Mr. BISHOP HARMAN said that, like Dr. Brailey, he had done a similar operation with the twin-scissors as his routine practice. He denied that there was ever any sign of weakening of the eyeball as suggested by Lieutenant-Colonel Elliot, and failed to see that in proper hands the keratome was dangerous; in fact, he found it an invaluable instrument. Trephining had the defect that pressure was put on the eye.

Dr. MCREYNOLDS said he was accustomed to fix a thread in the sclera and excise the piece with a knife; no special instrument was necessary.

Mr. HEPBURN said that the keratome was a dangerous instrument in case of shallow anterior chamber.

The PRESIDENT said he was grateful for Elliot's trephining operation; he now did no other for chronic glaucoma. He acknowledged there was a danger from pressure during the cutting. As for the keratome, the danger lay in its wrong usage; when properly used it was a valuable instrument and capable of fine work.

The meeting concluded with a vote of thanks to the President and the officers.

DERMATOLOGY.

WEDNESDAY, JULY 23RD.

President, Dr. J. H. SEQUEIRA (London).

In his introductory address the PRESIDENT drew attention to Sir Malcolm Morris's appeal in THE LANCET and to the subsequent petition signed by 40 eminent physicians and surgeons for a Royal Commission to investigate venereal disease. He also alluded to pellagra and the recent work showing the presence of that hitherto unsuspected disease in Britain.

Dr. H. G. ADAMSON (London) read a paper on

Fungous Infections of the Glabrous Skin.

He said that fungous infections of the skin and its appendages included various forms of ringworm of the scalp, the beard, and the nails; several varieties of favus; several forms of ringworm of the glabrous skin; ringworm of the groin and the extremities; tinea versicolor and erythrasma; the serious diseases—actinomycosis, blastomycosis, and sporotrichosis. Fungous infections of the glabrous skin were considered under four headings: (1) Tinea circinata and pityriasis versicolor; (2) ringworm of the groins and extremities and erythrasma; (3) favus; and (4) actinomycosis, sporotrichosis, and allied diseases. Photographs of the various types of tinea circinata and ringworm of the skin were exhibited.

They came under three groups: (1) Forms associated with ringworm of the scalp; (2) forms derived from cats and other small domestic animals; and (3) forms derived from horses and cattle. When the disease was associated with disease of the scalp the lesions were usually numerous, and showed circular red patches or rings, slightly scaly. The second form was often seen in children, and was usually derived from the large-spored ringworm of the cat. The lesion was usually single, with more inflammatory reaction than the first type, and at its margin tiny vesicles. The third form was usually seen on the hands and arms of farm labourers or those who worked with horses. It might also affect the beard. The lesion was usually single, and had a still greater inflammatory reaction, forming a raised disc or nodule with a clear margin, and covered with pustules ("folliculitis conglomerata"). These fungi were confined to the horny layers of the epidermis; the inflammatory reaction was due to its poisonous excretions. In infection from animals the reaction was much more violent than in that derived from human beings. It had been suggested that a general immunity was attained in ringworms of animal origin. The lesion remained single, and a second attack was unknown. Ringworm of the groins and extremities had long been mistaken for eczema. "Eczema marginatum" was really ringworm. This fungus attacked only the groins, the folds of the mammæ, the axillæ, and the clefts between the toes and the fingers, never the hair. For a decade this fungus had been very prevalent in schools, colleges, and institutions, attacking men and boys of all ranks, rarely women. The point of practical importance was that if these parts were treated as eczema the disease lasted for years. The festooned margin, red, scaly, with minute papules, was characteristic in the groins and axillæ. Between the toes the fungus caused a red, weeping, "peeled" patch, with scaly margin, extending a little on to the sole or back of the foot; sometimes it was vesicular and hard to diagnose. A history of groin "eczema" should lead the physician on the correct track. The violet culture fungus which commonly affects the beard or scalp might cause bullous or eczematous eruptions on the hands. Another form of ringworm extended from between the toes to the soles of the feet, lifting up the epidermis in overhanging masses. It was due to walking over floors on which the hairs of diseased pet animals had fallen. Dr. Whitfield's ointment of acid. salicyl. and benzoic acid was the most rapid means of curing ringworm of the skin. Favus of the skin could be caught from the mouse, the horse, and the fowl. The London County Council methods had practically eradicated favus of the scalp. Mouse favus still appeared as red scaly rings like ringworm, except when the typical sulphur-yellow scutula could be seen. Actinomycosis, blastomycosis, and sporotrichosis were more serious infections than those previously described. Actinomycosis usually infected the skin secondarily. No authentic case of blastomycosis had occurred in this country. At the last British Medical Association meeting Dr. de Beurmann had given a complete account of sporotrichosis. This fungus invaded the deeper structures after gaining entrance by an abrasion in the skin or mucous membrane. Sporotrichosis produced highly resistant spores which entered the blood or the lymphatics and caused secondary lesions. The tissues reacted, forming swellings resembling gummata and tuberculous lesions. 200 cases had been reported in France and America; only three indigenous cases had been found in this country.

In the subsequent discussion the following members took part: Sir MALCOLM MORRIS (London), Dr. R. A. BOLAM (Newcastle), Dr. S. E. DORE (London), Dr. GEORGE PERNET (London), Dr. F. BARENDT (Liverpool), Professor R. WILD (Manchester), and Dr. A. WINKELRIED WILLIAMS (Brighton).

Dr. PERNET read a paper on

Veronal Rashes.

His first case of veronal rash occurred in 1906, after a dose of 7½ grains. When the patient was seen on the following day there was a blotchy erythematous rash with some circinate lesions tending to be vesicular in the centre. Dr. Pernet's second case had blistering of the lips with heat and dryness of the roof of the mouth. On another occasion after a dose of malonal (a form of veronal) she suffered with blisters about the face, lips, and hands, with much swelling of head, orbits, and nose. Another patient had developed a morbilliform rash after taking luminal, which was a derivative of veronal.

THURSDAY, JULY 24TH.

Dr. J. M. H. MACLEOD (London) read a paper on

The Nature, Varieties, Causes, and Treatment of Lupus Erythematosus.

He described the two chief types: the discoid or circumscribed and the acute disseminated. The *circumscribed* type was the most common of the two varieties, and included 90 per cent. of the cases he had observed. The face, ears, scalp, fingers, and buccal mucosa were affected. The discoid lesions occurred in three forms: (1) with a raised margin, rough surface due to a central adherent scale, with horny plugs beneath it extending into the follicles; (2) pinkish red non-scaly patches; (3) small telangiectases. Lupus pernio formed a link between lupus erythematosus and chilblains. In the *acute disseminated* variety the lesions developed rapidly and involved an extensive area. On the face the lesions simulated eczema, toxic erythema, even erysipelas; they might even be bulbous and vesicular, and disease of the kidneys or liver, pains in the joints, and a remittent temperature were associated. In both the acute and the chronic varieties there was a persistent erythema, succeeded by atrophic scarring. Dr. MacLeod then described the histological changes in detail. The tubercle bacillus had never been found in the lesions, and inoculation experiments had proved negative. The French school believed the disease to be a manifestation of the tuberculous toxin, citing in favour of such a contention the presence of tuberculosis in other parts of the body or in the family. Against the statistics of the French school Dr. MacLeod pointed out that out of 94 cases shown at the Dermatological Society in London only ten of the patients had any record of tuberculosis, and only two had any family history of tubercle. The observations of other physicians with tuberculin injections and other tubercle tests were described. Agglutination tests had shown positive results in discoid fixed types, but negative results in the acute types. Apart from the tuberculous toxin certain facts pointed to the presence of some unknown toxin: (1) the symmetrical distribution of the lesions; (2) resemblance of the lesions in certain cases to those of toxic erythemata (E. multiforme) (in some cases the diseases could not be distinguished with any certainty; even the histological findings did not clear up the diagnosis); (3) acute disseminated lupus erythematosus had been associated with severe general toxæmia, connected with disease of the kidneys and cirrhosis of the liver. Dr. MacLeod then discussed the association of lupus erythematosus with defective circulation, as revealed by cold hands and feet, mottled and cyanosed skin on the extremities, moist palms and soles, a tendency to chilblains or by the more serious phenomena of swollen ears, tip of the nose, dead fingers, and even Raynaud's disease. Dr. MacLeod maintained that lupus erythematosus could not be regarded as a morbid entity due to one specific cause, but was called forth by a number of different causes in individuals who were predisposed to it. The chief predisposing causes were age, sex, type of skin, and defective peripheral circulation, owing to general or local causes. Thus it was dependent on a delicacy of the affected part in which the circulation was so feeble and depressed that local injury (such as frost bite, insect bites, cold, heat, and sunburn) or toxæmia in the blood of the cutaneous capillaries caused a disturbance so severe that recovery was impossible without loss of tissue. Treatment included local and general remedies. All general defects must be sought for and appropriately attended. Brilliant sunshine and extremes of temperature were local irritants to be guarded against. Various drugs had been employed. Salicin (15 to 30 gr.) and large doses of quinine had given the best results. The action of quinine was intensified by simultaneous local application of tincture of iodine. In local treatment no strong remedy should be applied at the beginning. The scales should be removed, and the lesion kept dry by powders and pastes. Magnesium carbonate and zinc oxide formed a good powder, as the former absorbed so large a quantity of fluid. To diminish local hyperæmia ichthyol and adrenalin were employed; collodion was less transient. For minute lesions electrolysis, the cautery, and scarification might be used. Dr. MacLeod's best results had followed ionisation with zinc sulphate; he had found carbon dioxide snow

uncertain; X rays had given disappointing results; and high-frequency and static discharges aggravated the condition.

Dr. G. NORMAN MEACHEN (London) read a short communication upon

The Use of Copper Salts in the Treatment of Lupus Vulgaris.

Injections of the chloride or tartrate into the lupoid tissue itself had proved of value in several cases. The combination of copper with lecithin had been recommended by Dr. A. Strauss, of Barmen. Internal administration of copper chloride in doses of 1/6 gr. was useful at the same time.

FRIDAY, JULY 25TH.

Dr. DORE read a paper on

The Use and Action of X Rays in Psoriasis and Other Skin Diseases,

in which he dealt with the action of X rays on psoriasis, eczema, lichen simplex and planus, acne vulgaris, coccogenic sycosis, and hypertrophic scars. X rays affected chiefly the epithelial structures. The epidermic cells underwent degeneration, with increase of pigment and of keratohyalin. Atrophy of the hair follicles and of sebaceous and sweat glands occurred. The blood-vessels became dilated and their endothelial coats showed proliferation. The connective and nerve tissues were only slightly affected. The action of the rays on glandular tissue was seen in their effects on the sweat glands in hyperidrosis, on the spleen in leukæmia, on the thyroid in Graves's disease, and on the testicles in X ray workers. Dr. Hernaman-Johnson considered X rays even in small doses were harmful to young cells. Dr. Dore thought that clinical results confirmed the view that young and rapidly growing cells were susceptible to X rays. Small doses were efficient in psoriasis, in mycosis fungoides, and in sarcomata. In mycosis only half-pastille doses were required. Sabouraud's pastille was the usual method of measuring a given dose, tint B representing the maximum safe dose at a single exposure. Slightly under the B tint dose caused stimulation; slightly over caused atrophy of the epidermic structures. Dr. Dore then discussed therapeutic dosage. One-quarter of a pastille dose stimulated ulcers; in psoriasis and chronic eczema half doses yielded the best results. Full pastille doses were required for epilation, as in ringworm and staphylococcic sycosis, and in some cases of alopecia areata. The tint B might be slightly exceeded when there was hypertrophy of the horny or fibrous tissue. In acne and hyperidrosis pastille doses should be repeated every three weeks. The treatment of psoriasis was then reviewed at length. Dr. Dore had found obstinate patches yielded to half-pastille doses repeated at weekly intervals for four or five times; full doses were not so successful. Inflammatory reaction was harmful. Recurrence of psoriasis could take place after X rays, but did not appear so soon as after any other method of treatment. In eczema of the hands, fingers, and nipples half-pastille doses of X rays often succeeded after the failure of other methods. Hypertrophic lichen yielded to full pastille doses. He had seen two cases of hypertrophic scars cured by 11 pastille doses at monthly intervals. In alopecia areata small doses were not of much avail; epilation doses had to be employed, and were usually followed by regrowth. However, in cases of total alopecia of long duration X rays usually failed, like everything else.

Dr. HALDIN DAVIS (London) read a paper on

Ointments.

Lard was used as an emollient base, paraffin as a protective. Lard became rancid unless preserved by the addition of benzoin, an irritating ingredient. Soothing drugs owed their remedial properties to the fact that they formed a protective covering. The action of tar, sulphur, and other common drugs was unexplained. Cosmetic creams were then described, with special reference to "cold" creams. Most "skin-foods" contained stearic acid or casein, not oil or lard.

Dr. DAVID WALSH (London) read a paper on

Circulatory Disorders in Relation to Alopecia Areata and other Forms of Baldness.

He reviewed the opinions of Unna, Robinson, and Sabouraud, but contended that in the majority of cases there was a general circulatory cause in operation.

Dr. WINKELRIED WILLIAMS read a paper on

The Treatment of Chronic Ulcer of the Leg in Ambulatory Cases.

Varicose veins *per se* did not cause callous ulcers. Mercury and potassium iodide gave the best results. Locally a weak iodide and starch paste should be employed.

Other papers were: Treatment of Skin Affections by Solid Carbon Dioxide, by Dr. J. L. BUNCH (London); Necrotic Acne, by Dr. F. GARDINER (Edinburgh); and the Treatment of Common Skin Diseases at the Harrogate Spa, by Dr. L. J. HOBSON (Harrogate).

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are among the amounts received at the Mansion House to date. Total up to date about £55,000.

	£	s.	d.
Mr. Wm. Herring	1000	0	0
Great Synagogue, Aldgate	226	0	0
Wimbledon Churches	177	0	0
Hampstead Synagogue	142	0	0
Central Synagogue	126	0	0
Church of Annunciation, St. Marylebone	117	0	0
New West End Synagogue	109	0	0
Bayswater Synagogue	86	0	0
St. John's Wood Synagogue	60	0	0
Spanish and Portuguese Synagogue	56	0	0
St. Paul's, Penge	36	0	0
Kensington Congregational Church	35	0	0
Stoke Newington Synagogue	33	0	0
Reigate Parish Church	32	0	0
St. Paul's, Winchmore Hill	31	0	0
Trinity Church, Hampstead	30	0	0
Dalston Synagogue	30	0	0
All Saints', Notting Hill	26	0	0
St. Anne's, Stamford Hill	25	0	0
St. John's, Stratford	25	0	0
St. Stephen's, Avenue-road	24	0	0
South Hackney Synagogue and Religion Classes	23	0	0
Brondesbury Synagogue	22	0	0
St. Margaret's, Streatham	20	0	0
St. Peter's, Clerkenwell	20	0	0

HOSPITAL FOR PARALYSIS, EPILEPSY, AND OTHER DISEASES OF THE NERVOUS SYSTEM.—The new wing, which now completes the structure, of this hospital was opened by the Princess Louise, Duchess of Argyll, on July 25th. Her Royal Highness, accompanied by the Duke of Argyll, was received by Mr. Charles Drummond, the chairman and treasurer; Dr. George Ogilvie, senior physician, and the medical staff; Mr. Keith Young, the architect; Miss Weston, the matron; and Mr. H. W. Burleigh, the secretary. Among those present were Sir Rickman Godlee and the Mayor of Marylebone. Mr. Drummond, in opening the proceedings, described the new hospital, which now provides accommodation for 70 patients and 26 staff on five floors. The basement contains the offices, kitchen, nurses' and servants' dining halls, store rooms, and plant. The ground floor is devoted to the administration offices, laboratories, and out-patient department. The first and second floors contain each three wards for eight patients. The top floor contains quarters for the nursing and domestic staffs, and the operating theatre, anæsthetising, sterilising, and surgeons' rooms. Hot-water heating and gas cooking are employed. There are 14 single-bed wards for free and paying rest cure patients. A school of massage and electrical treatment is attached. The cost of the entire building has been about £35,000. The financial aspect of the institution was satisfactory. After Her Royal Highness had declared the building open, Dr. Ogilvie proposed a vote of thanks, in which he recalled a previous visit of Her Royal Highness ten years ago. He referred to an operation performed in that institution many years ago by Sir Rickman Godlee on a poor patient who suffered from constant and unbearable headaches, convulsive seizures, and progressive blindness, due to an intracranial tumour, with complete relief to the patient. This was the first operation of the kind ever performed in England, if not in the world. The Duke of Argyll replied, and Sir Rickman Godlee made a strong appeal on behalf of the research laboratory which needed a fund of its own, distinct from that of the hospital.

THE LANCET.

LONDON: SATURDAY, AUGUST 2, 1913.

The Seventeenth International Medical Congress.

WHAT is the use of an International Medical Congress in these days of general travel, rapid communication, and world-wide dissemination of all important matters by journalistic enterprise? Hardly is a new discovery made, a new application of an old principle announced, or a new theory propounded, before its essential features—perhaps the entire original pronouncements of the author—are before us in our own tongue in the pages of our medical journals, where they can be carefully perused and critically appraised at leisure. It is impossible not to have some such thought as this on the eve of an International Medical Congress, and consequently the question of how far an International gathering of medical men assists in the progress of science or promotes the welfare of humanity is one that many people are asking themselves. It may be added that the wide development of specialisms, nearly all of which have their own congresses, appear to make an International Medical Congress superfluous rather than necessary. Such special congresses had in many instances their origin in America, and were brought in that enterprising country to a ridiculous pitch of particularity; but now that the anatomy, physiology, and pathology of nearly every orifice of the body are debated at special meetings by those who have made a particular study of them the value of reasonable specialism appears. The results have subdued criticism and justified the foresight of those who originated them. What untrodden ground do all these special congresses leave for an International Medical Congress? The answer to these questions has been variously given. Some have lauded the quickening influence of the living voice on the apprehension of knowledge; but even if that did not often exercise a misleading personal glamour, tending rather to inhibit the critical judgment, it could hardly prove instructive in the not infrequent cases in which the language of the speaker is not understood by a large proportion of his hearers. For others the inspiring experience of coming into personal touch with those leaders of the profession whose labours for the advancement of medical science have become familiar seems perhaps ample justification; but even that alone could hardly be adequate compensation for all that is involved in the organising of, and attendance at, an International Congress.

There are, however, aspects of an International Medical Congress which manifest its supreme importance as a Congress of Congresses. Medicine is a practical art-science, and one which more and more continually formulates the principles upon which to-day much of the sociological legislation of all civilised lands is based. In the sphere of public health and hygiene particularly the legislation of every country is inextricably interwoven with that of its neighbours, because health and disease disdainfully ignore all boundaries of man's devising; and while the international character of state medicine is clearly perceived, it must be remembered that all scientific medicine and surgery has the same potentialities for common good. Individual sicknesses make national calamities, and an international conference upon the cause and treatment of these sicknesses should lead to the adoption by different races of the methods of remedy that best stand the ordeal of wide debate. Only by an isolation, impossible of attainment to-day, could the transmission of disease and of disease-producing or disease-favouring habits and customs be prevented. There is a "world health" as truly as there is a national or an individual health. It is the place of international medical congresses to deduce from a comprehensive survey of work in more limited fields common principles of action for universal application. The results of such work must be viewed from the heights, as it were, whence their local conditions, their ramifications, their inter-relations, can be observed in proper proportion. Thus, that which is true everywhere and of all should receive the seal of approval of universal medicine, and this seal should be affixed in resolutions passed in plenary session on important subjects.

The questions are numerous on which the unanimous pronouncement of the International Medical Congress, representing the consensus of the medical profession of the world, could be appealed to by legislators to reinforce the legislative demands. It is for this purpose that representatives are sent by national Governments to international congresses; and unless they are enabled to take back a message to those who sent them their acceptance as accredited representatives of their respective Governments, and the honours paid to them, become meaningless. For the honour paid by the Congress and the country in which it is held to the representatives of the various Governments is more than personal. Personal it is, of course, in that it must be presumed, and is often well known to be the case, that the individual's selection as a representative of his country is due to the personal service rendered by him to the advancement of the cause. But still more is the honour paid to his function as intermediary between the Government which he represents and the Congress whose object it is to further the good of all nations, all mankind alike. We heartily join in the cordial welcome that will be accorded to the Congress and its members, our guests, and more especially to those who come accredited thereto as the medical ambassadors of their respective countries.

Medicine and the Public.

AT the annual meeting of the British Medical Association at Brighton, which came to an end last week, a departure was made which hardly attracted the attention that it deserved. To a certain extent this was fortuitous, and therefore could not be announced in any preliminary manner likely to command either medical or public attention. But at this meeting a genuine bid was made to interest the public in the proceedings of medicine—to educate the public in medical aims and to receive with

attention statements regarding the public views on various matters of the first professional importance. This departure on the part of the British Medical Association was an answer to the feeling that has been created in the public mind that throughout the prolonged and vexatious negotiations which preceded the passing of the National Insurance Act the medical profession was fighting only for its own hand. The more ignorant, and consequently the more positive, organs of the lay press have stated with circumstance and industry that the medical profession throughout the recent struggle were attempting to erect a medical priestcraft, the officers of which, free from supervision, above dictation, and relieved from criticism, would do what they liked, do it when they liked, and leave the public to pay the bill. This impression arose directly out of the events which attended the passing of the measure designed to promote and to maintain the national health. That measure was to a great extent sprung upon the medical profession. Professional advice was in many directions sought only late in the day, and after the troubles had begun, so that instead of appearing before the public as loyal and willing partners in a scheme for physical salvation, practitioners of medicine were compelled to use such energies and powers of coöperation as they could find, to resist provisions which on the one hand would have reduced the scheme for the national promotion of health to sterile formulæ, and on the other would have condemned the profession, through whose brains and hands alone the measure could be administered, to a position of dangerous subservience upon scientific matters. The necessary resistance on the part of the medical profession was interpreted by some as nothing less than a demand for complete mastery by the profession of the public, and we must admit, so urgent did many of the material questions become, while the measure was completing its passage through the House of Commons, that in the debates the medical profession were compelled to lay stress rather upon pecuniary details than upon broader considerations, thereby giving a colour to the vulgar statement that they were engaged merely in a strike for higher pay.

The whole tone of the meeting last week gave a contradiction to this view. The medical profession at the Brighton Congress appeared, even while still sorely exercised as to the material position in which they have been placed by the National Insurance Act, as prepared both to take wide views on the public side of the promotion of health and to welcome the opinions of laymen, administrators, philosophers, and humourists upon the methods which should be employed to meet the evils that follow upon impaired national health. This spirit was manifest throughout many of the debates at Brighton, and was perhaps especially in evidence at a meeting held apart from the official programme on July 25th by the State Medical Service Association, under the chairmanship of Professor BENJAMIN MOORE. Professor BENJAMIN MOORE had already opened a discussion in the Section of Medical Sociology, on Hospitals in Relation to the State, the Public, and the Medical Profession, and in forcible terms had found the voluntary hospital system, acting alone, to be unable to solve the sociological problem of the treatment and prevention of disease among the whole mass of the industrial population. He considered that the voluntary system was uneconomical and ineffective compared to a municipal or national hospital system, where institutions would be staffed by medical men of each district giving whole-time service, who, by working with the medical officers of health, would become a corps charged with the health administration of both the individual and the environment. Sir HENRY BURDETT advocated the voluntary system with the arguments which we need not repeat to our readers, who all know the claims which the voluntary system have upon our respect. At the same time, we are willing to admit that the National Insurance Act has placed the question in a different light. It has embarrassed some of the voluntary hospitals considerably—at any rate, those responsible for the administration of the charities attribute some of the ills of their present situation to its working—and has therefore furnished grounds for reconsideration of matters which hitherto had been held to have received final adjudication.

This is but an example of the way in which a wise joining of medical and lay forces might accomplish much that is now left undone. It will be necessary for medical men to be ready to give reasons, as clearly as this is possible, for their professional acts and views. It will be no less necessary that the public should respect the reservations of the medical profession when a course of conduct is under question which would militate against the great principles for which medicine stands. We are perfectly certain that debates between the representatives of medicine and intelligent laymen upon the medical side of public questions—and there are few great public questions which have not a medical side—would lead to nothing but good. Had such friendly communion been to any extent in existence before the National Insurance Bill was read, the original form of that measure would have been different, the story of its shaping would have been altered, and an incalculable amount of friction would have been avoided.

Annotations.

"Ne quid nimis."

THE SPREAD OF DISEASE IN AFRICA BY WILD ANIMALS AND INSECTS.

THE Secretary of State for the Colonies has nominated a Committee to report: 1. Upon the present knowledge available on the questions of the parts played by wild animals and tseste flies in Africa in the maintenance and spread of trypanosome infections of man and stock. 2. Whether it is necessary and feasible to carry out an experiment of game destruction in a localised area in order to gain further knowledge on these questions; and, if so, to decide the locality, probable cost, and other details of such an experiment, and to provide a scheme for its conduct. 3. Whether it is advisable to attempt the extermination of wild animals, either generally or locally, with a view of checking the trypanosome diseases of man and stock. 4. Whether any other measures should be taken in order to obtain means of controlling these diseases. The Committee will be composed as follows: The Right Honourable the Earl of Desart, K.C.B. (chairman); Mr. E. E. Austen, British Museum (Natural History); Dr. A. G. Bagshawe,

director of the Tropical Diseases Bureau; Dr. Andrew Balfour, C.M.G., late director of the Wellcome Research Laboratories, Gordon College, Khartum; Sir John Rose Bradford, K.C.M.G., secretary of the Royal Society; Mr. E. North Buxton, chairman of Quarter Sessions, Essex; Dr. W. A. Chapple, M.P.; Sir Mackenzie D. Chalmers, K.C.B., C.S.I.; Lieutenant-Colonel Sir W. B. Leishman, F.R.S., Professor of Pathology, Royal Army Medical College; Sir Edmund G. Loder, Bart., Vice-President of the Zoological Society; Dr. C. J. Martin, F.R.S., director of the Lister Institute of Preventive Medicine; Mr. J. Duncan Millar, M.P.; Dr. P. Chalmers Mitchell, F.R.S., secretary of the Zoological Society; Professor R. Newstead, F.R.S., Liverpool University; Mr. H. J. Read, C.M.G., Colonial Office; the Honourable L. Walter Rothschild, F.R.S.; Sir Stewart Stockman, chief veterinary officer, Board of Agriculture and Fisheries. Mr. A. C. C. Parkinson, of the Colonial Office, will act as secretary.

THE CURE OF TETANUS.

In the course of experiments on tetanus it was noticed by Dr. M. Armand Ruffer and Dr. M. Crendiropoulo (1) that an extract of the muscles of a guinea-pig that had died from experimental tetanus neutralised *in vitro* from 15 to 20 lethal doses of tetanus toxin; and (2) that if this same extract was injected into the peritoneum in guinea-pigs in which the first tetanic symptoms had already appeared it aggravated the disease and hastened the animal's death. These seemingly antagonistic facts suggested that the extract contained besides a preventive and curative substance some other substance which reinforced the virulence of the tetanus toxin. They therefore sought a means of neutralising the latter while preserving the activity of the former intact. After many failures it occurred to them to treat the muscle extract with tetanus antitoxin, and use a mixture of the two substances on animals injected with fatal doses (1, 2, and more c.c.) of Nicolle's glycerinated toxin from the Institut Pasteur, Paris. This they did, injecting from 2 to 4 c.c. of the mixture at intervals varying from 18 to 36 hours or more after the injection of the toxin—i.e., after tetanic symptoms had already begun to manifest themselves—with the result that, while all the control animals untreated or having received only injections of tetanus antitoxin died in the usual time—viz., from three to five days—of those treated with the mixture 60 per cent. recovered, and in all those that died death was delayed for some days. The authors possessed several guinea-pigs thus cured, only a slight paralysis being left three or four months later at the time of writing. These experiments were reported in a communication[1] presented by M. Garnier on June 14th to the Société de Biologie de Paris. The preparation of the extract is as follows: The muscles of the hind limbs removed aseptically, freed from fat and tendon and cut into small pieces, were immersed in a mixture of three parts of glycerine to one of distilled water, in the proportion of 1 grm. of muscle to 2 c.c. of fluid. After five days in the *étuve* precipitation is effected with alcohol at 96° and after 5 or 10 minutes the liquid is filtered. The residue is collected, dissolved in distilled water sufficient to make up the original bulk of liquid, again filtered, and the filtrate mixed with antitetanic serum in the proportion of four of serum to six of extract. (It was found that the experimental results obtained were the same whether the antitetanic serum came from the Institut Pasteur of Paris or Berne or from the Institut of Saxony.) One half per cent. of phenol is added and the preparation is kept in a dark cool place. The liquid is at first inactive, but becomes active after five or six hours in the *étuve* at 98·6° F. or in 12 hours at laboratory temperature, 68° to 86° F. It is particularly noted that muscle extract from the normal guinea-pig has no effect on the progress of tetanus. The description of the method given by the authors seems so explicit, and the limitations are so clearly defined, that there should be no difficulty in confirming or disproving the claims made for this method, of the importance of which there can be no doubt.

[1] Sur la Guérison du Tétanos Expérimental chez le Cobaye. Par Marc Armand Ruffer et Milton Crendiropoulo. Alexandrie: Société des Publications Egyptiennes. 1913.

SALVARSAN AND NEOSALVARSAN.

The difficulty of appraising the value of a new remedy is proverbial. The early reports are always too optimistic; they exaggerate advantages and minimise or overlook dangers. Even the scientific eminence of the discoverer of the remedy provides no exception to this law. What position will ultimately be occupied by salvarsan or neosalvarsan in the treatment of syphilis cannot yet be stated. That the treatment is attended by some danger of acute arsenical poisoning has been apparently proved. In certain subjects, who may be young and strong, the administration, with all due precautions, of an ordinary dose, more usually of a second dose, has been followed by coma, convulsions, and death, and at the necropsy hæmorrhagic encephalitis has been found. It may be admitted that such cases are very infrequent, but of their existence there can be no doubt. One has been recently recorded in the *Australasian Medical Gazette* of June 14th. A youth, aged 19 years, was given at the Adelaide Hospital an intravenous injection of 0·6 grm. of salvarsan soon after the appearance of a hard chancre and before any secondary manifestations. There was a slight reaction, and about two weeks later the injection was repeated. Again there was a slight reaction, and he was retained over night and allowed to return home next morning. About 48 hours after the second injection he complained of a feeling of illness, epigastric pain, and sensitiveness to noises. He was flushed and sweating, and the temperature was 101° F. The knee-jerks were slightly exaggerated. About eight hours later he became irrational and very frightened. There were frequent rigors. He gradually passed into a state of stupor and next morning would not answer questions. Babinski's sign was present. Towards evening he began to have fits, which recurred at varying intervals during the night; altogether there were 18 in the next 24 hours. He vomited four or five times. He was seen in two convulsions, of which one was general, the other definitely left-sided. He became comatose, and died 96 hours after the injection. A necropsy was not allowed. That the fatal result was not due to the method of administration or to any peculiarity in the syphilitic infection is shown by the fact that three other men were infected by the same woman on the same night. Of these one was given two injections of salvarsan and the other two were not. None of them manifested any untoward symptoms. The patient was apparently an ideal subject for salvarsan treatment. Idiosyncrasy to the drug is the only explanation which can be given of such cases. Unfortunately there is no means of determining its existence before administration. Dr. Fleming asks the question, Are the benefits to be derived from salvarsan sufficient to justify the risk of death (small as it is) in patients who would almost certainly not have died under mercurial treatment? In the same number of the journal Dr. A. Verge quotes the opinion of Wechselmann and others that neosalvarsan is more toxic and less efficacious than salvarsan, and states that his own experience and that of Dr. E. H. Molesworth at the Royal Prince Alfred Hospital have not been happy. While they had no untoward symptoms

with salvarsan in some hundreds of cases they had two cases of acute exfoliative dermatitis (obviously from arsenical poisoning), and one death in a young man of 20, obviously in every way a suitable subject for neosalvarsan. They found that neosalvarsan was not nearly so active as salvarsan in removing the secondary eruption.

SCRUPULOSITY.

ONE of the pitfalls into which the medical practitioner may stumble is to pay too much attention to the purely material and physical side of his profession, and in so doing to forget that his patient is not merely a body. The ideal which all seek is a sound mind in a sound body, and every medical man knows that disease is sometimes manifest in the mind rather than in the body, and *vice versâ*. One of the diseases of the mind which is only too common in these days, running side by side with its exact opposite, is that which theologians designate by the name "scrupulosity," a disease which has been treated by a learned Franciscan, Father A. Gemelli, of Milan. Father Gemelli is not only a priest, but also a doctor in medicine and surgery and an experienced practitioner.[1] He therefore writes from the point of view of one who is at the same time a medical expert and one trained in moral theology. The "scrupulous" man is one who suffers from undue anxiety that all his thoughts and actions are not merely wrong but actually sinful; he suffers from obsessions, doubts, fears; in fact, says Father Gemelli, a scruple (*idea obsidens*) is one manifestation of that disease which in these days those skilled in psychiatrics have investigated and called psychasthenia. In other words, people who suffer from "scruples" in the technical theological sense are really psychasthenics, although of course psychasthenia manifests itself in other ways too. Father Gemelli examines the various manifestations of this protean complaint with great care, and deals fully with the subject of treatment. The cure, naturally, is in the main psychical, but he by no means passes over the necessity for the patient leading a healthy life as regards his physical side. The directions for psychical treatment are, of course, written from the Roman Catholic point of view, but even to those who are not of this faith the ideals to be aimed at in the cure will appeal with force. Father Gemelli's book is one which may well be studied both by the clergy and by medical men. Originally written in Italian, it has been translated into Latin by Dr. Cæsar Badii, a professor at the Seminary of Fiesole.

TUBERCULOSIS ACQUIRED THROUGH RITUAL CIRCUMCISION.

Professor L. Emmett Holt reports a case of penile tuberculosis, followed by generalised infection, in an infant 3 months of age, in the *Journal of the American Medical Association* for July 12th. There was no evidence of tuberculosis in the child's family; the victim himself weighed 11 pounds at birth, and was fed at the breast up to the time of admission to the Babies' Hospital, New York. The operation of ritual circumcision had been performed at eight days, the blood being sucked up in the usual way. At the end of a week purulent ulceration manifested itself in the prepuce, the area enlarging up to the time of admission to hospital. Two weeks after operation the inguinal glands became swollen and remained so, though without suppurating. At the time of admission the skin of the penis was completely destroyed by ulceration, which extended as high as the abdominal wall, and ran so deeply towards the urinary meatus as to imitate hypospadias. These ulcerations contained acid-fast bacilli, which were proved to be those of tuberculosis and not those of smegma. In each groin there was a chain of firm, enlarged lymph nodes. Both spleen and liver were considerably increased in size; there were râles over both lungs, which steadily increased, and though there were no clinical signs of meningitis the cerebrospinal fluid removed two days before death (which occurred two weeks after admission) contained an excess of cells. Scattered about the trunk, neck, and thighs were lesions resembling those of varicella, from which tubercle bacilli were recovered during life. There was constant remittent fever, the child weakened progressively, and died of exhaustion. Post-mortem examination disclosed a miliary tuberculosis of brain, lungs, heart, peritoneum, and various other organs and tissues. The mesenteric lymph nodes were enlarged and cheesy, as also those behind the peritoneum, which formed a chain continuous below with the glands of the groins. The man who performed the operation looked ill. There were no physical signs of pulmonary tuberculosis, but his sputum contained acid-fast bacilli. It appears, therefore, a plain case of inoculation with tuberculosis followed by lymphatic and then by blood-borne infection. Professor Holt gives an interesting *résumé* of 40 other cases collected from the literature; 16 (including the one described by himself) were known to have ended fatally, while only six recoveries are recorded. He remarks very justly that in all probability many cases occur that go unrecorded, and says that the danger of infection with tuberculosis and syphilis which ritual circumcision involves makes that practice indefensible on the score of public health.

RAILWAY FARES TO HEALTH RESORTS.

IT may be presumed that certain of our great railways have abolished second-class carriages as a matter of convenience and economy in traffic working, although undoubtedly a very large section of the public showed an appreciation of the intermediate class because it offered increased comfort and accommodation at a reasonable extra charge over third-class fare. There is now no option of paying a little more in order to secure something a shade better than third class, for the rule appears to be to charge for a first-class ticket approximately double the sum charged for a third-class. The logic of fixing such a wide difference between first and third price is open to question. The time is opportune for drawing attention to this point in view of the approach of the holidays, and also of the great efforts which are being made to convince the public that our home health resorts offer attractions of both a social and medical kind which are not less favourable than those that are offered abroad. In the case of health resorts or watering places which happen to be hundreds of miles away from the starting-point the difference between first- and third-class fare is a very serious one; in many instances it amounts to several pounds. It is a common occurrence that while the third-class carriages are perhaps uncomfortably full on a long-distance train there is often room to spare in the first-class compartments. Surely it would be better to have the first-class compartments occupied rather than empty, even though such a result be gained by a reduction of the first-class fare. There are quite a number of people we are certain who would gladly pay, say, half as much again on the third-class rates for the convenience of travelling more comfortably, though they now regard the double price as out of all proportion to the

[1] Quaestiones Theologiae Medico-Pastoralis; disquisitiones medicae in usum Confessariorum; auctore Prof. Doct. Augustiono Gemelli, O.M. Tomus II., De Scrupulis; Florentiae, "Libreria Editrice Florentina." London: B. Herder, 68, Great Russell-street. Pp. 349 and Index. Price 4*s.* 3*d.* net.

extra comfort provided and as a severe tax on their purse for the privilege. In not a few instances the traveller is an invalid seeking health and recuperation at a place of treatment, while it is obvious that the invalid is not always a rich person. We suggest that the subject is well worth the consideration of our railway managers. We quite understand that a railway is a business undertaking, and the public are not entitled to expect philanthropy at the hands of the directors and shareholders, but the concession we appeal for seems to us to promise advantages both to the railway management and to its great patrons the public. It would also be a further means of inducing the public to resort to our home health stations in preference to those abroad, where the supplemental fares for increased comforts do not show the very wide differences which we have pointed out.

HENOCH'S PURPURA SIMULATING APPENDICITIS.

IN the *Gazette Médicale de Paris* of May 14th M. Baudet has reported a case of Henoch's purpura in which appendicitis was simulated. An artilleryman, aged 19 years, while on Christmas furlough with his family, was seized with abdominal pain during supper on Dec. 29th. Vomiting, at first alimentary, then bilious, followed. On the next day there were slight spontaneous abdominal pain and tenderness on pressure, especially in the right iliac fossa. The vomiting persisted and was porraceous and incontrollable. The temperature was subnormal (97·3° F. in the rectum), and the pulse was 80 and regular. On the 31st the vomiting continued, and the rejected matter assumed a chocolate-brown colour. The abdomen was very tender and rigid. The extremities were cold and the temperature was 96·8° F. The practitioner in attendance diagnosed peritonitis due to appendicitis, and thought operation necessary. During the night a large quantity of bright red blood was passed. On the following morning (Jan. 1st, 1913) there was an improvement. The temperature had risen to 98·6°, the pulse was 80 and good, the vomiting had ceased, the abdominal pain was less, the abdomen was supple, and no mass could be felt on palpation. At McBurney's point, where ice had been applied, was a large blackish ecchymosis of irregular outline. It was difficult to account for this. It could not be explained by freezing of the skin, for in using the ice a flannel had always been interposed. In view of the improvement it was decided not to operate. On the following days the improvement continued, but on Jan. 7th intractable vomiting recommenced, the pulse rose to 100, the facies altered, and the patient complained of violent articular pains in the wrists, elbows, and shoulders. The abdomen was not painful. The temperature was 99·1°. On the following day the wrists were swollen and painful, and the shoulders and knees were so in less degree. In the evening there were severe epistaxis and slight hæmatemesis. On Jan. 9th a purpuric eruption appeared; a large ecchymosis covered the chin, and there were spots on the forehead, elbows, and axillæ. The anterior surfaces of the legs and the posterior surfaces of the fingers and forearms were covered with the eruption. Abdominal pains, of the type found in appendicitis, were again acute, and vomiting was present. Chloride of calcium and horse serum were administered. On the 11th there was marked improvement in the cutaneous and abdominal symptoms and the general condition was better. On the 13th the purpura commenced to fade and the patient got up. On the 15th convalescence was complete, except for some slight pains in the right shoulder and wrist. Guinon and Lavallé have reported cases of purpura with abdominal symptoms which suggested appendicitis, but there were always certain symptoms which did not fit with this diagnosis—blood in the stools, œdema of the face, and absence of alteration in the pulse. The diagnosis of the condition is easy if purpura precedes the abdominal symptoms, but is extremely difficult if it does not. However, close watching of the pulse and temperature ought to prevent error. The abdominal pains have been attributed by some authors to paralysis due to intestinal purpura; by others to suprarenal hæmorrhage or irritation of the solar plexus. We may refer to another mistake to which the abdominal symptoms of Henoch's purpura have given rise—the diagnosis of intussusception. Cases have been recorded in which laparotomy has been performed under this diagnosis. It must not be forgotten, however, that intussusception may be a complication of Henoch's purpura, as Dr. G. A. Sutherland has shown.

THE opening of the new buildings of King's College Hospital at Denmark Hill, Camberwell, on Saturday last, July 26th, was a highly successful function. The King, who was accompanied by the Queen, declared the new hospital open in sympathetic words, after which Their Majesties inspected the building and expressed their admiration of its general arrangements.

FOR the convenience of visitors to the International Congress of Medicine the museum and library of the Royal College of Surgeons of England will be open on August Bank Holiday. The library will also be open on the following day, and the museum on each day of the week.

IT would greatly facilitate the labours of the organising staff of the Seventeenth International Congress if members would pay their subscriptions and take their tickets before the opening of Congress at the office now at the Albert Hall.

OPHTHALMOLOGICAL CONGRESS.—The annual Ophthalmological Congress was held in Oxford on Thursday and Friday, July 17th and 18th. About 70 members attended. Amongst the distinguished foreign ophthalmic surgeons who attended this meeting were Professor Emil de Grósz, of Budapest; Dr. Igersheimer, of Halle; Dr. Franz Deutchmann, of Hamburg; and Dr. Marvas, of Paris. There was also a large number of American surgeons present, including Dr. Weeks and Dr. W. P. Marple, of New York, and Dr. John McReynolds, Dr. Howard Hansell, Dr. Hulen, Dr. Begle, Dr. Ray, Dr. W. H. Adams; and from Canada, Dr. Reeve, of Toronto, and Kerry, of Montreal. On Thursday morning addresses were given by Professor de Grósz, Dr. McReynolds, Dr. Igersheimer, and Colonel Elliot, of Madras. There were also numerous interesting exhibits in the Scientific Museum, notably Dr. Deutchmann's exhibit of macroscopic and microscopic preparations illustrative of the transmission of sympathetic ophthalmia, Dr. Thomson Henderson's microscopical preparations, and Mr. A. W. Head's paintings of the eyes of animals. After luncheon cases were shown at the Eye Hospital by Mr. Zorab, Mr. Harries Jones, Mr. Ridley, and Mr. Adams, and several surgeons described details of their operations. Tea was served at the Eye Hospital, and at night the official dinner was held in Keble College, with Professor Sir William Osler in the chair. On Friday addresses were given in the morning by Dr. Marvas, Dr. Deutchmann, Dr. Ridley, Dr. Harrison Butler, and Dr. F. W. Edridge-Green. In the afternoon an interesting discussion was held on the Present Position of Ophthalmology, opened by Mr. R. W. Doyne, Master of the Congress. Tea took place in the gardens of Worcester College, Lady Bradshaw acting as hostess. After dinner a smoking concert was held in the junior common room at Keble College, bringing to a conclusion what was probably the most interesting and most successful congress yet held.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE

(LONDON, AUGUST 6th to 12th, 1913.)

Patron—HIS MAJESTY THE KING.
President—SIR THOMAS BARLOW, Bart., K.C.V.O., M.D., F.R.S.
Treasurers—Mr. G. H. MAKINS, C.B., and Sir DYCE DUCKWORTH, Bart., M.D.
Chairman of Executive Committee—Sir ALFRED PEARCE GOULD, K.C.V.O., M.S.
General Secretary—Dr. W. P. HERRINGHAM.

THE Seventeenth International Congress of Medicine will commence its sittings in London next week, under the patronage of H.M. the King. H.R.H. Prince Arthur of Connaught will open the Congress, as the representative of His Majesty, in the Albert Hall at 11 A.M. on Wednesday, August 6th. The order of business will be as follows. A short introductory address will be delivered by Sir Thomas Barlow, President of the Congress, who will be followed by Prince Arthur of Connaught, who will declare the Congress open. Sir Edward Grey, Secretary of State for Foreign Affairs, will then welcome the Congress in the name of His Majesty's Government. The general secretary, Dr. W. P. Herringham, will then present his report, and each foreign delegate will speak shortly on behalf of his Government. Finally, the President of the Permanent Commission, Professor Waldeyer, and the President of the International Association of the Medical Press, Professor Lucas-Championnière, will briefly address the assembly.

GENERAL SESSIONS.

A General Session will be held in the Albert Hall on each day, except Saturday, during the Congress, at which the following general addresses will be delivered:—

Wednesday, August 6th, 5.30 P.M.—Address in Medicine, Professor Chauffard (Paris).

Thursday, August 7th, 2 P.M.—Address in Surgery, Professor Harvey Cushing (Harvard University).

Friday, August 8th, 2 P.M.—Address in Pathology, Professor Paul Ehrlich (Frankfort a/M.).

Monday, August 11th, 2 P.M.—Address on Heredity, Professor W. Bateson, F.R.S.

Tuesday, August 12th, 3 P.M.—Address on Public Health, Right Hon. John Burns, M.P.

SECTIONAL MEETINGS.

There are 26 sections. The sectional meetings will be held in rooms in the University of London, the Imperial College, the Royal School of Science, the School of Art, and the Central Technical College. These bodies have generously placed their buildings, which are all close together in South Kensington, at the disposal of the Congress. The Royal College of Physicians of London, the Royal Society of Medicine, St. Thomas's Hospital, the Royal Army Medical College at Millbank, and the Royal Dental Hospital are also offering accommodation for sectional meetings. The morning sittings will be devoted to discussions on fixed subjects, which will be introduced by well-known authorities.

The abstracts of such communications as their authors so desire are published in THE LANCET this week in order to facilitate debate. These abstracts will be published to members of Congress in English, French, and German at the end of the week.

Outline programmes of the papers to be read in the various sections will be found in THE LANCET of different issues, and a revised list of them will be found in Circular VI. of the official publications of the Congress.

CLOSING MEETING.

The closing meeting will be held in the Albert Hall on Tuesday, August 12th, at 4 P.M.

PRELIMINARY FORMALITIES.

The Albert Hall is the official address of the Congress. The whole of the ordinary arena of the Hall is covered by the great floor which goes up to what is called the loggias and is on the level of the organ. The loggias on the west side will be devoted to the business of the excursions. On the opposite side members will go to exchange their cards of identity for their final member's ticket. On either side of the south door the staircase runs up to "crush" rooms, right and left. The east crush room will serve as the general post office for postal correspondence, and telegraph and telephone communication; here will be the *poste restante*. The west crush room will be the Congress Bureau; each member of Congress will here find an envelope corresponding to the number on his ticket, in which will be the literature and cards of invitation which may be waiting for him, supplementary to what may be under his name in the post office. It is recommended that members should apply, if possible, on Tuesday, for membership cards, should then put their names down for such excursions or entertainments as they wish to attend (the distribution of the tickets for the latter will be settled by lot), and should go to both the post office and the bureau to receive what belongs to them. It should be noted that all the offices round the central arena must of necessity be closed from 10.30 on the Wednesday to 1 o'clock, owing to the opening meeting.

It would greatly facilitate the labours of the organising staff of the Congress if members would pay their subscriptions and take their tickets before the opening of Congress at the office which is now at the Albert Hall.

INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

The Sixth Congress of the International Association of the Medical Press will take place in London on Tuesday, August 5th, the day preceding the opening of the International Medical Congress. The Congress of the Press will be held in the Senate Room of the University of London at the Imperial Institute (Exhibition-road, South Kensington), under the presidency of Professor Lucas-Championnière, member of the Institute of France, and President of the Association. The morning meeting will be held at 11 o'clock, when Dr. Squire Sprigge, president of the British Section, will welcome the international guests. Professor Lucas-Championnière having made his Presidential address, the Secretary-General of the International Association, Dr. Raoul Blondel, of Paris, will report on the proceedings of the Association since its last meeting.

The first discussion will be upon the question of the international reform of medical terminology, and will be introduced by Dr. Blondel.

Professor Posner, the editor of the *Berliner Klinische Wochenschrift*, will then introduce a debate upon the responsibilities of a medical journal with regard to advertisements.

The Editor of THE LANCET has issued invitations to lunch at the Hyde Park Hotel, Knightsbridge, S.W. The discussions will be resumed in the afternoon.

ABSTRACTS OF PAPERS.

These abstracts are printed in THE LANCET *previous to the meeting of the sections at the request of the officers of the Congress.*

SECTIONS I. AND III.

ANATOMY AND EMBRYOLOGY AND GENERAL PATHOLOGY.

Joint Discussion 1.

The Excitatory and Connecting Muscular System of the Heart.

Abstract of Report by Dr. JOSUÉ, Paris.

Cardiac localisations.—The idea of cardiac localisations is new. Originated by physiology, they have been discovered afresh in human pathology. The idea dominates all the clinical history and pathological anatomy of myocarditis. It explains how the symptoms during life are not always comparable to the myocardial lesions found after death. In truth, the site of the lesions is of more importance than their extent. The small fibrous scar interrupting the bundle of His will have more serious consequences than a much larger lesion situated in the anterior wall of the ventricles. We have passed in review the manifestations which permit the localisation of lesions in the cardiac muscle. We have studied the disorders which characterise the appearance of abnormal starting points of the cardiac systoles and those which indicate the interruption of the conducting bundle. We have examined successively the embryological relics of the primitive cardiac tube, portions which have been specialized with a view to the production and transmission of cardiac contraction and the remainder of the myocardium.

Cardiac localisation should be considered as localisation of function. That we have been able to localise disorder in a particular region of the heart does not permit us to say that we shall certainly find the material lesion in that spot. The functional disorder is situated in a precise region of the cardiac muscle, but it is not always easy to say in what measure it depends on a local lesion or is due to some other cause, such as influence of the nervous system.

Abstract of Report by Dr. LEWIS.

Dr. LEWIS'S paper is an epitome of observations upon the pacemaker in the mammalian heart. By comparing the forms of electric curves obtained by stimulating the auricle in various areas with the natural electric curves, and by studying the forms of electric curves obtained by leading directly from the auricular substances, it has been shown conclusively that the contraction wave starts in the immediate neighbourhood of the sinu-auricular node in the normal heart. The application of heat and cold to various areas of the auricle has established the fact that the impulses are created in the same neighbourhood; experiments in which injury to the node (mechanical, chemical, and thermal) has been employed, lend support to the same conclusion. *The sinu-auricular node is the pacemaker of the heart in all mammals.*

Abstract of Report by Dr. IVY MCKENZIE.

The sinu-auricular node and the auriculo-ventricular node and bundle have their homologues in the various vertebrate hearts. In the fish they are in the form of rings of specialised muscle surrounding the sinu-auricular and auriculo-ventricular orifices. They become transformed from rings to large spindles as a result of the morphological changes in virtue of which the heart becomes divided for the propulsion of arterial and venous blood. The sinu-auricular spindle is derived from the original sinu-auricular ring, and the auriculo-ventricular spindle is probably derived partly from sinu-auricular tissue and partly from auricular canal; the former derives its main nerve-supply from the right side and the latter from the left. Their function is associated in some way, as yet unexplained, with the coördination of the cardiac movements.

SECTION I.

ANATOMY AND EMBRYOLOGY.

Discussion 2.

The Early Stages of the Human Ovum.

Abstract of Report by Professor A. C. F. D'ETERNOD.

This report has for its object a brief *résumé* of the principal acquisitions of high importance which have been made in this region in the last few years, and a criticism of the numerous theories to which they have given rise. The author follows the ovum step by step from its maturation and fecundation to the moment when every part is differentiated. He makes numerous comparisons between the human ovum and the ova of the animal series. On the way he notices the considerable divergencies which still exist among specialists on these very difficult subjects, and calls attention also to the directions in which the researches of the future must be pushed in order to obtain useful results. He puts forward in addition notions of his own, specially on matters concerning the gastrula, the primary germ-layer, the phylogeny of the ovum, the trophoblast, the germinal area, the rôle of the vitelline sack and the allantois, the placenta, and the vascular area.

Discussion 4.

The Morphology of the Shoulder Girdle.

Abstract of Report by Dr. R. ANTHONY, Paris.

Dr. ANTHONY has set himself on the one hand to give a synthetic *résumé* of the question as it presents itself to-day from the anatomical point of view, and on the other hand to place in evidence the factors which may have determined in the course of phylogeny the principal modifications of general aspect which the elements of this girdle present in the batrachians, reptiles, birds, and mammals.

Discussion 5.

Cerebral Localisation and the Precise Significance of Sulci.

Abstract of Report by Dr. C. U. ARIËNS-KAPPERS, Amsterdam.

To judge the significance of sulci in regard to intrinsic localisation it is necessary to study sulci and intrinsic localisations separately. A considerable parallelism exists between the evolutionary features of fissuration and the evolutionary features of intrinsic localisations in the cortex, so that morphological studies have a great value also from the view-point of intrinsic localisations. Important deviations from this parallelism occur, so that a study on fissuration will always need control by a study of intrinsic localisations. These deviations can often be explained by a greater conservation of sulci. The homology or non-homology of sulci should not be considered to depend on he homology or non-homology of adjoining intrinsic areas.

SECTIONS II. AND VI.

PHYSIOLOGY AND MEDICINE.

Joint Discussion on Internal Secretions.

Abstract of Report by Professor GLEY, Collège de France, Paris.

The notion of internal secretions is complex. The first idea is that of substances which modify the composition of the blood (Claude Bernard). Brown-Séquard has added the idea of functional excitants from which has been evolved that of functional humoral correlation. Division of the glands of internal secretion according to the mode of action of their products, according as they furnish nutritive material, substances with trophic action (morphogenetics), hormones strictly so called, and the products of katabolism endowed with physiological action (parhormones). Inadequacy of the researches on the physiological action of organic extracts for the determination of the functions of internal secretion. General characters of the substances which are internally secreted. Their rôle, their reciprocal relations; the critical review of the question of humoral inter-relations. Disorders of function of the glands of internal secretion; the criticism of the notions of hyper- and hypo-function.

SECTION II. AND SUBSECTION IIIa.

PHYSIOLOGY AND CHEMICAL PATHOLOGY.

Joint Discussion.

Endogenous Metabolism of the Proteins.

Abstract of Report by Professor E. ABDERHALDEN, Halle a/S.

One form of catalysis of proteins in cell metabolism has at the present time to a great extent been cleared up. It is hydrolysis of proteins. There arise peptones, polypeptides, and amino acids. Further catalysis sets in in the latter case. Two forms of catalysis of the amino acids have been thoroughly studied. On the one hand, carbonic acid can be split off; amines then form; or the amino group is first removed, and then further changes follow. The nitrogen-free carbon chains may be employed for many syntheses. Undoubtedly the formation of carbon hydrates out of amino acids occurs from these carbon residues. The amino acids can themselves give material for the formation of the bases which find employment as the foundation of the phosphatides. Gradually catalysis meets them everywhere.

SECTION III.

GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY.

(For Joint Discussion with Section I. see under Section I.

Discussion 4.

The Pathology of Shock.

Abstract of Report by Dr. YANDELL HENDERSON, Professor of Physiology in the Yale Medical School, New Haven, Conn., U.S.A.

Shock, in the broad sense in which the term is often used, is not a single, clear-cut disorder, but a group of conditions of superficially similar appearance. The term is also applied to various modes of sudden death. Present knowledge of the pathological physiology of these processes will be briefly presented. The acapnia theory of fatal apnœa as the result of pain and of ether excitement will be stated, and typical cases quoted. Shock in the sense of failure of the circulation will then be shown to be due, not to fatigue, or paralysis, or inhibition, or failure of any sort in the vaso-motor centre, but to processes which decrease the blood volume, and which result in a circulatory condition practically identical with those produced by hæmorrhage.

Discussion 5.

The Effect of Radio-Active Substances and Radiations upon Normal and Pathological Tissues.

Abstract of Report by Professor Dr. O. HERTWIG.

Radium and mesothorium rays call forth, in the first place, changes in the nuclear substances of vegetable and animal cells. On this account the ova and sperm cells, in spite of their very unequal content in protoplasm, under equally intensive rays change to an almost equal degree. A proof hereof is the hindrance to development of the impregnated ovum consequent on the application of the rays to one of the two germ cells before impregnation. By intensive radiation of the sperm cells the parthogenetic development of the ova impregnated through them can be produced. The hypothesis previously adopted, that the lecithin in the cells was broken down, is therefore no longer to be maintained. Embryonic cells and undifferentiated cells in a condition of proliferation are, since in them the nuclear substance is in excessive proportion to the plasm products, more strongly affected by radio-active rays than fully formed tissues.

Abstract of Report by Dr. W. S. LAZARUS-BARLOW.

Previous work has shown conclusively that injurious effects on living cells may be produced by strong doses of radiations, and particularly by alpha rays. Chemical substances may be decomposed. There is some evidence that very weak doses may stimulate proliferation of cells. This is important, because minute quantities of radium itself have been found in suggestive association with carcinoma in the human body. It is probable that the action of X rays and hard gamma rays is indirect—i.e., by virtue of the soft secondary rays to which they give rise. The whole subject needs more extended research.

SUBSECTION IIIa.

CHEMICAL PATHOLOGY.

Discussion 1.

Pathological Conditions due to Defects of Diet.

Abstract of Report by Dr. H. SCHAUMANN, Hamburg.

It has been proved by recent investigations and in opposition to the conception generally accepted until a short time ago, that complete nutrition does not depend only on the food's content of a sufficient amount of the main nutritive substances—namely, albumin, carbohydrates, fat, mineral compounds, and water. The composition of the albumin ingested and the presence in the food of certain stuffs, which were unknown and consequently neglected formerly, are of just as much importance for the maintenance of the organism of the higher animals. The referee endeavours to epitomise the results recently obtained in this field of research in the following points: 1. A food containing sufficient quantities of all the above-mentioned nutritive substances is nevertheless deficient when its albumin lacks certain cyclic amino-acids (acyclopoiësis of the animal organism). 2. Complete nutrition depends further on the presence in the respective foods of certain compounds, whose existence was heretofore unknown or considered unessential. The proportions of these compounds seem to be very small and to vary in different foodstuffs. 3. One of these compounds (vitamine) has been isolated recently in a crystalline form, and its efficiency, so far as it is an immediate one, defined. 4. This nitrogenous base is (besides the already named nutritive stuffs) in all probability only one of several compounds necessary for complete nutrition. 5. These compounds existing in foodstuffs only in a relatively very small proportion are accumulated in a much greater amount in some animal and vegetable stuffs (yeasts, the pericarp of rice, barley, wheat, &c., bull testicles, the brain, the heart, and the eggs of mammalians and birds). The strikingly therapeutic and prophylactic effect of these stuffs is due to this circumstance. 6. The respective substances seem to exist in genuine foodstuffs in a free state only in a small proportion. The greater number of them are probably constituents of more complicated molecules, some of them containing phosphorus (phosphatides, nucleins). 7. The mode of action of these compounds is very likely due to an intermediary influence upon the metabolism, and seems to be specific for every single one. 8. The absence or scarcity of one or several of these compounds seems to disturb the metabolism according to its, or their, peculiar mode of action in a specific way, originating thus more or less typical diseases (beri-beri, ship beri-beri, scurvy, Möller-Barlow's disease, pellagra, and others). 9. The majority of these compounds are labile, and are therefore either easily destroyed by long storage, long heating and cooking, alkalies and micro-organisms, or removed by husking and polishing, long cooking, extraction by salt-lye, &c. 10. The methods hitherto known for the preparation and isolation of this class of compounds are still very imperfect. On this account the attempts to isolate them in a pure state have not been very satisfactory. For the same reason it is difficult to make sure whether these compounds are contained originally in the foodstuffs in a free state or combined with other substances, and of what kind the latter are. 11. In consequence of the difficulties it is impossible at present to draw a definite conclusion, whether the efficiency of the compounds belonging to this class and containing phosphorus is partly due to the phosphorised group of the whole molecule or not. A number of observations pleads either for this interpretation, or for the eventuality that the metabolism of phosphorus is especially favoured by one or several of the compounds in question.

(For Joint Discussion with Section II. see under Section II.)

SECTION IV.

BACTERIOLOGY AND IMMUNITY.

Discussion 4.

Filter Passers.

Abstract of Report by Professor Dr. LOEFFLER, Greifswald.

After a reference to the reports made by Loeffler and Doerr to the "Freie Vereinigung für Mikrobiologie," 1911, in Dresden, the author gives a review of the diseases whose excitants belong to the filter passers, now 38 in number,

describes the nature and biology of the excitants, mentions the circumstances of importance in filtration—the actual size of the pores, pressure of the filter, duration of filtration, volume of the filtrate, and also speaks of the filtrability of the excitants by means of ultra filters. The reporter discusses in detail the culture on artificial media of the filter passers of pleuro-pneumonia, fowl plague, fowl diphtheria, vaccinia, poliomyelitis, foot and mouth disease, and molluscum contagiosum; also culture in the animal body in sheep-pox and agalactia. The reporter recommends that special institutes should be established for the study of filter passers.

Discussion 5.

Further Studies upon the Leprosy Bacillus: Its Cultivation and Differentiation from other Acid-fast Species.

Abstract of Report by Dr. C. W. DUVAL, New Orleans.

The acid-fast rods known in the human leprous lesion as the Hansen bacillus can be cultivated *in vitro* under special nutritive conditions. The initial multiplication outside of the animal body occur only in a medium that contains the split products of protein digestion; however, after repeated transplantations the culture will slowly adapt itself to grow upon other nutrients. Experiments show conclusively that the specific organism of leprosy is unable to attack the whole protein when first removed from the tissue of the host. The readiness with which it multiplied in digested excised pieces of the leprous nodule, and its failure to grow in the removed tissue which has not altered, or to grow in any medium where the amino-acids are absent, proves the correctness of this hypothesis.

The specific organism of leprosy *in vitro* as well as *in vivo* is always distinctly acid-fast and a bacillus. These characteristics are as constant for B. lepra as they are for B. tuberculosis. Non-acid-fast diphtheroids, streptotrical or actinomycetal "stages" for the Hansen organism described by some European writers (Babes, Kedroaski, Rost and Williams, and Bayon) do not exist. It can be stated positively that the micro-organism of human leprosy belongs to the bacterial family, genus bacillus, and is not of the family chlamydobacteriaceæ genus streptothrix.

SECTION V.

THERAPEUTICS.

Discussion 1.

The Measures of Defence of the Organism against Foreign Bodies in the Blood.

Abstract of Report of Professor EMIL ABDERHALDEN, Halle.

The organism possesses against the action of foreign bodies a powerful means of defence in the digestion. This it is which disintegrates the proper structure of each of the nutritive substances assimilated. Besides, all that can be absorbed is carried to the liver cells, which again control the whole, so that the product which is given to the blood is constant, and the cells of the organism receive a constant nutriment.

Yet this harmony is disturbed when tissue cells or free cells, such as cancer cells or micro-organisms, introduce into the blood substances retaining still the marks of their derivation. Yet here, again, there is a powerful means of defence in the lymphatic system. If the foreign substances pass this, other defences come into play. Sometimes it is the organs of excretion which eliminate them; sometimes ferments form in the plasma and attach them. The presence of certain ferments are evidence that certain substances are in the blood. Thus the analysis of the blood and the discovery of its ferments gives an idea of the functions of the several organs. The residues formed by ferment action may be themselves toxic.

SECTION VI.

MEDICINE.

(For Joint Discussion with Section II. see under Section II.)

Discussion 4.

Diabetes.

Abstract of Report by GEORGE DOCK, M.D., St. Louis, U.S.A.

Reporter shows present state of anatomical investigations in diabetes; the results of experiments of clinical study tending to elucidate the pathology and especially the metabolism in the disease. The relations of this to practical medicine are described and the diagnostic and therapeutic problems presented in various types of cases are discussed.

Discussion 5.

Differentiation of the Diseases included under Chronic Arthritis.

Abstract of Report by Professor LEWELLYS F. BARKER, Baltimore.

The reporter reviews the development of knowledge concerning these diseases, describes the origin of the terms which have been employed and the modification which these have gradually undergone. He thinks that much of the confusion in terminology has been due to the attempt to make clinical, pathological, anatomical, and etiological classifications coincide—an impossible task. He divides the principal chronic arthropathies into five main groups:—1. The true gouty arthropathy. 2. The neuropathic arthropathies (tabes, syringomyelia). 3. The primary hypertrophic osteoarthropathy (osteoarthritis deformans). 4. Chronic secondary arthropathies following infectious diseases. 5. The primary chronic progressive polyarthritis (rheumatoid arthritis in the narrower sense). He admits that the latter may be an infectious disease and may ultimately be placed in Group 4, but believes that the weight of evidence at present is in favour of a disease *sui generis*.

The relation of villous arthritis, the arthropathies of the spine, Still's disease, Heberden's nodes, Bouchard's comptodactylie, and subcutaneous fibroid nodules to the abovementioned types is discussed.

SECTION VII.

SURGERY.

Discussion 3.

The Surgery of the Arterial System.

Abstract of Report by RUDOLPH MATAS, M.D., New Orleans, Louisiana.

The text will be embodied in the following subsections:—

1. Suture of the Blood-vessels. Angiorrhaphy: Classification and analysis of procedures. The essentials of the technic. (*A*) Suture of Arteries: Arteriorrhaphy. (*B*) Suture of Veins: Phleborrhaphy—lateral, circular, temporary, permanent, unaided, aided with prosthesis. Experimental Evidence: Clinical applications and results.

2. Arterio-venous Anastomosis—lateral, circular, or end-to-end, temporary, permanent. Experimental Evidence: Clinical applications and results.

3. Arterio-arterial and Veno-venous Anastomosis—lateral, circular, temporary, permanent. Experimental Evidence: Clinical applications and results.

4. Vascular Transplantation of Arteries and Veins. Autogenic: Heterogenic aided, unaided, segment of an artery grafted to another or branches of a parent trunk reimplanted on the same vessel at different levels. Experimental Evidence: Clinical applications and results.

5. Patching of Arteries and Veins with Sections of Blood-vessel or other Material. Experimental Evidence: Clinical application and results.

6. Implantation and Transplantation of Organs and Limbs by Vascular Anastomoses. Experimental Evidence: Clinical applications.

7. The Suture as Applied to the Treatment of Aneurysm, including Arterio-venous Aneurysm, with special reference to the author's method of intrasaccular suture, or endo-aneurysmorrhaphy. The latest statistics, including an analysis of 215 reported cases, operated by this method.

8. Testing the Efficiency of the Collateral Circulation as a Preliminary to Operations Involving the Great Surgical Arteries. Methods. Conclusions.

A comparative estimate of the surgical methods of treating aneurysm advocated at the present time, with special regional or topographical indications, will be made a salient feature of this report.

SECTIONS VII. AND XI.

SURGERY AND NEUROPATHOLOGY.

Joint Discussion 4.

The Treatment of Tumours of the Brain and the Indications for Operation.

Abstract of Report by Professor Dr. L. BRUNS, Hanover.

1. The operative procedure for cerebral tumours falls into two groups: (*a*) radical operations with extirpation of the tumour; (*b*) palliative operations for the relief of pressure, and these can be either primary and devised for that purpose alone, or they are performed as a secondary resort when the radical operation for some reason cannot be performed.

2. The indications for the radical operations and the prognosis of those operations depend upon three things: (*a*) The nature of the tumour. The most favourable are the circumscribed tumours, and especially those that project from the surface. Unfortunately the clinical diagnosis between the common infiltrating glioma and the circumscribed sarcoma is still extremely difficult. (*b*) The possibility of certain general and local diagnoses. The general diagnosis may be difficult as against abscess, hydrocephalus, and the so-called pseudo-tumours. The local diagnosis is often impossible in the case of tumours in the right temporal and frontal lobes, and in the case of those in the semi-oval centrum and in the corpus callosum. (*c*) The accessibility of the tumour. Inaccessible are tumours of the third ventricle and many in the substances of the hemisphere. All others are accessible, but with very different degrees of danger.

3. Primary palliative operations are indicated if, while the local diagnosis is uncertain and the general diagnosis is certain, the general symptoms are very severe, as, for instance, when vision is affected and blindness threatened.

SECTION VII.

SURGERY.

Discussion 5.

The Present State of Intra-thoracic Surgery.

Abstract of Report by Professor Dr. SAUERBRUCH, Zürich.

After a short historical review Sauerbruch describes the factors which have been of importance in the development of thoracic surgery. He names the improvement of diagnosis through Roentgen rays, the experimental researches on pneumothorax, and the introduction of the determination of the difference of pressure. Of great importance are next special operative methods for particular pulmonary diseases. The author relates his own experience in certain regions of thoracic surgery. The procedure in severe intra-thoracic lesions, the technique of resection of the chest wall, &c. Detailed mention is made of the operative treatment of chronic suppurations in the lung, especially bronchiectases and tuberculosis. The results related show that one may speak of a considerable advance of thoracic surgery in the last 10 years.

SUBSECTION VIIa.

ORTHOPÆDICS.

Discussion 1.

The Treatment of Spastic Paraplegia.

Abstract of Report by Mr. E. MUIRHEAD LITTLE, London.

The conditions considered are due to defect or disease of the upper motor neurone. In the past, by orthopædic treatment and operations upon muscles and tendons, cases of spastic paraplegia and cerebral diplegia of infancy have been much improved. Neurotomy—partial or complete—alcohol injection of nerves, and nerve transplantations are now employed with effect. Only in the worst cases is Foerster's adaptation of Bennett's operation of section of the posterior nerve roots justifiable; in these it is a valuable innovation. The one-stage operation and rhizotomy close to the conus medullaris are to be preferred. No treatment is of avail in idiotic, epileptic, or badly athetotic cases.

Discussion 4.

The Treatment of Tuberculous Joints in Childhood.

Abstract of Report by Professor Dr. J. DOLLINGER, Budapest.

Joints which come for treatment in a position of contracture should be at once treated by plaster dressings and got back into position by stages. The most important agent in the local treatment is the complete fixation by means of bandages or apparatus that cannot be removed. To this is added in the case of the spinal column the supine position, and in the case of the lower limbs the removal of the weight of the body. Illustrations are given. In general treatment Dollinger lays stress on sun rays, the application of which is critically described. This treatment, together with Roentgen therapy, has markedly diminished the boundaries of operative procedure.

The Mechanical Treatment of Hip Disease.

Abstract of Report by Dr. JOHN RIDLON, Chicago.

By hip disease is meant any chronic inflammation of the hip joint that is not differentiated from tuberculosis, and that left untreated results in more or less diminished range of motion at the joint, with usually some deformity and frequently shortened limb. All cases of hip disease demand mechanical treatment; only a very small percentage of cases demand operative treatment; and for these mechanical treatment is as essential as for the cases not operated upon.

This mechanical treatment falls into three general classes—namely, plaster-of-Paris splints (long and short); metal splints for immobilisation (of which the Thomas splint is the best type); and traction devices for use in bed and for walking (of which the Taylor splint is typical). Some cases require treatment in bed for a time, others may walk with crutches or the protecting traction splint; other cases, at least during the period of convalescence, may with advantage walk on the limb without crutches or any protecting device.

SUBSECTION VIIa. AND SECTION XXII.

ORTHOPÆDICS AND RADIOLOGY.

Joint Discussion 5.

Radiography of Bones and Joints and its Value in Orthopædic Surgery.

Abstract of Report by Dr. G. NOVÉ-JOSSERAND (Lyons).

Radiography renders possible the study of deformities on the living and during growth. It permits their recognition, the accurate determination of their morbid anatomy, the distinction of their varieties, the description of their evolution, and the definition of the architectural alteration of bones which results from them. Thus it gives us ideas which are important both for diagnosis and treatment. It has also increased the clinical knowledge of the deformities, and has discovered new varieties and shown the relations which exist between them. Its importance is specially great in the study of congenital scoliosis, of the disease of Dupuytren-Madelung, of congenital dislocation of the hip, of deviations of the neck of the femur, and of flat foot.

Abstract of Report by Dr. PAUL REDARD (Paris).

In combination with clinical examination, this method adds to diagnosis and prognosis, and to the direction and control of treatment an exactness and precision hitherto unknown. It is impossible to study a deformity in the living body properly without the aid of radiography. Without radiography orthopædic surgery would certainly not have made the rapid progress which has marked the last few years. The discovery of Röntgen has been as fruitful for orthopædics as the laryngoscope for laryngology, or the ophthalmoscope for diseases of the eye. Much, however, remains to be done. Our efforts should, above all, be directed to perfecting the technique, which is still imperfect, and does not always give us the necessary precision. We must besides educate ourselves in radiology, learn better to read and interpret the *clichés*, study fully the normal and morbid anatomy of radiology, the various anomalies, and the laws of development of the bones and joints. Stereoscopic radiography is incontestably superior to the ordinary. It is this method to which special attention should be paid in the future.

SUBSECTION VIIb.

ANÆSTHESIA, GENERAL AND LOCAL.

Discussion 2 (b).

Rectal Anæsthesia.

Abstract of Report by Dr. JOHN H. CUNNINGHAM, Jr., Boston, U.S.A.

History of the method of administration and results of Rectal Anæsthesia following its introduction in 1847 and its reintroduction in 1902. Advantages and disadvantages of the method. Description of the apparatus. Technique of administration. Theory regarding the physiology of ether narcosis by the rectal method. Its place among other methods of modern anæsthesia.

Discussion 2 (g).

Nitrous Oxid-Oxygen as an Anæsthetic in General Surgery.

Abstract of Report by Dr. CHARLES K. TETER, Cleveland, Ohio, U.S.A.

Owing to the ever-increasing interest manifested in nitrous oxid-oxygen as a general anæsthetic many improvements have been developed during the past few years in the method of administration, which have thereby greatly increased its efficiency. When nitrous oxid-oxygen with certain modifications is given by an anæsthetist skilled in its administration the anæsthesia is the safest, most agreeable, and freest from post-anæsthetic complications. Owing to the fact that nitrous oxid must be given from 80 to 95 per cent. pure in order that anæsthesia may be induced and maintained, we are constantly confronted by the problem of asphyxia, which is practically the only danger arising from this form of anæsthesia.

The fundamental principles involved in the successful administration of nitrous oxid-oxygen are: (*a*) the use of preanæsthetic narcotics; (*b*) the advantage of using pure oxygen; (*c*) a definite and even flow of the gases; (*d*) administering the gases warm; (*e*) rebreathing the gases; (*f*) positive interpulmonary pressure.

Technique used in administering nitrous oxid and oxygen for the following operations:—(*a*) For all operations not about the head and neck the face inhaler is employed throughout the whole operation. In these cases there is no interference in properly administering the gases. (*b*) Cleft palate and hair-lip operations. In this class of cases it is usually necessary to use a small percentage of ether with nitrous oxid-oxygen on account of the impossibility of excluding all atmospheric air. (*c*) Excision of the tongue or either jaw. The face inhaler is applied until anæsthesia is established. The intranasal tubes are then inserted and anæsthesia maintained with no possibility of blood or mucous entering the trachea. (*d*) Excision of the larynx. Anæsthesia is induced by the face inhaler and a tube which is placed over the tracheotomy tube. Anæsthesia is then continued by a tube being placed in the trachea. (*e*) The enucleation of tonsils and adenoids. By the use of the nasal inhaler and mouth tube continuous and uninterrupted anæsthesia is maintained.

Clinical experience. The above principles are based upon a personal experience of ten years with nitrous oxid-oxygen as the anæsthetic in general hospital work with patients of all types and under all conditions. Classification according to length of time of anæsthesia maintained. Out of the large number of anæsthetics given by me there has been but one fatality. Limitations of nitrous oxid-oxygen as a general anæsthetic. Undoubtedly the greatest limitation of this agent is the inability of the anæsthetist to master and carry out the fundamental principles to which I have referred. Nitrous oxid-oxygen is contraindicated in children under five years of age; in old people in whom a degenerative process is manifested in the vessels or vital organs; in persons addicted to the excessive use of alcohol or drugs, and also in cases where the patient is a strong and vigorous type of man. In the hands of an expert nitrous oxid-oxygen with proper modifications has practically no limitations, but when given by a person not especially skilled in administering this anæsthetic agent nitrous oxid-oxygen is less safe than ether when administered under similar conditions.

Discussion 2 (h).

Chloroform Dosimetric Method.

Abstract of Report by Dr. DUDLEY BUXTON, London.

Dr. DUDLEY BUXTON points out that within a few years of the introduction of chloroform experiment proved its safety lay in its vapour being administered highly diluted. Snow fixed its limit of safety at 2 per cent., and all succeeding experiments have confirmed his view. Since Snow much research has taken place, and its unanimous findings have shown that the safety or danger of the drug lies in the percentage strength of the vapour introduced into the organism. Means of ensuring exact definite doses being given have been suggested. The criteria of their value appear to be: (1) whether the method controls the percentage strength of chloroform vapour independently of the person using it; (2) and does so by providing a limit of strength which can be inhaled, whatever the condition of the patient's respiration may be; (3) whether the anæsthetist knows precisely the percentage strength he is giving; (4) and can vary that strength at will; (5) whatever strength has been selected that will automatically remain constant until the anæsthetist voluntarily alters it. All open methods depend for safety wholly upon the personal skill and mental activity of the anæsthetist, and must from their very nature supply a varying strength of vapour. Hence they fail as dosimetric methods. The apparatus of Dubois, of Vernon Harcourt, of Waller, and others supply exact dosages and so satisfy the conditions of the criteria. Of these, Dubois's and Waller's are plenum systems, and as such are extolled by some authorities, while the more compact and universally applicable regulator of Vernon Harcourt can be used on a draw over or a plenum system. It has been pointed out that the only difference between these systems is that in the draw over a dead space is interposed between the patient and the ultimate plenum—the atmospheric—since, except in intratracheal anæsthetisation, it is the patient whose respiratory action actually does the work of inspiring in the one case from a space filled with air and chloroform vapour of definite strength, and in the other from the atmosphere through a system of tubes containing the vapour and air drawn into it by successive respirations. The comparison of the incidence of danger when open methods and dosimetric methods are used indicates that the latter are infinitely more safe. They are also more scientific, and supply the skilled anæsthetist with an accurate and reliable apparatus by which he can evince his skill by controlling the drug which he is employing.

Discussion 3 (b).

A Comparison of the Immediate and After Effects of Spinal and Local Analgesia with those of Inhalational Anæsthesia in Respect to Shock and Psychic Shock.

Abstract of Report by YANDELL HENDERSON, Ph.D., Professor of Physiology in the Yale Medical School, New Haven, Conn., U.S.A.

Shock may be the result of mental states, e.g., fear or anxiety, in much the same manner as it is of physical pain, although in less degree. In using local and spinal analgesia it is important that the mind also should be protected, unless the patient is of phlegmatic character. In general anæsthesia not only the consciousness of pain is to be avoided, but also over-stimulation of the nerve centres, controlling vegetative functions. Shock is not, however, fatigue of such centres, but consists in a general depression of vitality resulting from the excessive respiration induced by abnormally intense afferent irritations and by other excitement, from over-stimulation of adrenalin secretion, and from disturbance of other general functions. The acapnia theory of fatalities under anæsthesia (to be presented in some detail) teaches that excessive respiration during the stage of excitement, especially under ether, produces alterations of function which, if the method of anæsthetisation is sufficiently unskilful, may render even a perfectly healthy man or animal liable to fail under a dosage which would otherwise be borne with impunity. The use of "rebreathing" methods in connexion with nitrous oxide oxygen anæsthesia will be touched on, and also the use of oxygen containing a small amount of carbon dioxide.

SECTIONS VIII., X., AND XVIII.

OBSTETRICS AND GYNÆCOLOGY, DISEASES OF CHILDREN, AND HYGIENE.

Joint Discussion 2.

Infant Mortality in the First Four Weeks of Life.

Abstract of Report by Dr. HENRY KOPLIK, New York City.

Influences detrimental to the fœtus: their effect on post-natal life. How shown in the newly born infant. Disease in the parent as influencing the resistance to post-natal infections. Infections at birth. Mortality at birth and in the first hours after labour. Percentage mortality at this period. Influences of modern methods in reducing mortality at this time. Diseases formerly common, now unusual, owing to improved methods. Morbidity among the newly born. Prevalence of infections. Causes of death among the newly born in institutions. Preventable causes, and those which result either from inherent weakness or from prenatal influences. Some forms of disease begin at birth and the infant thrives apparently to succumb after the first month of life. Mortality in lying-in institutions and hospitals, causes, influence of the mode of feeding. The prevalence of breast-feeding as compared to artificial. Management of congenitally weak infants. Mortality outside of institutions: causes. Difficulty of obtaining statistics and a comparison of mortality of to-day with that of a decade ago. Systematic registry of birth and mortality, a necessary preliminary to the institution of measures of prevention. Statistics and methods of the United States as compared to that of foreign countries. Detailed tables of statistics of mortality in the first four weeks of life.

SECTIONS VIII. AND XXII.

GYNÆCOLOGY AND RADIOLOGY.

Joint Discussion 3.

Roentgen and Radium Therapy in Gynæcology.

Abstract of Report by Dr. FOVEAU DE COURMELLES, Paris.

Young fibromata, even when of large size, yield rapidly to X rays applied externally with aluminium filtration. Hæmorrhages and pains or feelings of weight are the first to go. The intensity should be varied according to the radio-sensitivity of the patients, and may go in the secondary from 1/10e to 3 mA. The number of sittings varies with the duration of the growth. About the menopause the action is sharper and more rapid, even for an old fibroma. Sometimes the X rays, after having had a certain effect and caused a little retrogression of the tumour, are of no more avail. Pure radium, from 1 to 5 cgr., round or in the neck of the uterus for from 6 to 24 hours, acts very well in those cases if the fibroma is early and but little developed, but less well when the tumour is large.

SECTION VIII.

OBSTETRICS AND GYNÆCOLOGY.

Discussion 4.

Cancer of the Uterus (Body and Cervix); Operative Technique and Results.

Abstract of Report by Professor Dr. DE OTT, St. Petersburg.

Conclusions.—1. For the operation of cancer the abdominal method with ablation of the lymphatic glands should be practised only in exceptional cases, for the results obtained do not in any way justify the risk of immediate danger. 2. The operation of choice should be the vaginal method (enlarged, as it is called), for the results obtained are not in any way inferior to those of the abdominal method. At the same time the risk of a fatal issue and of injury to neighbouring organs is infinitely less. 3. Risky operations in cases evidently desperate, which serve no purpose other than to increase the percentage of operability, should be completely abandoned, for to expose patients to a foolish risk cannot, from the point of view of humanitarianism, be approved.

SECTION IX.

OPHTHALMOLOGY.

Discussion 2.

Glaucoma Operations.

Abstract of Report by Professor PRIESTLEY SMITH, Birmingham.

This report shows the extent to which the newer operations for glaucoma have supplanted the classical iridectomy in the practice of British ophthalmic surgeons. In the autumn of 1912 the reporter addressed an inquiry on the point to all members of the Ophthalmological Society of the United Kingdom, excepting those known to do no operative work. The replies show that iridectomy, variously executed, still holds an almost undisputed place in the treatment of acute glaucoma, and that operations expressly designed to establish a subconjunctival fistula or filtering cicatrix, and pre-eminently sclero-corneal trephining, have, to a very large extent, replaced it in chronic glaucoma. Evidence for and against the various procedures is given.

Sclero-corneal Trephining in the Operative Treatment of Glaucoma.

Abstract of Report by Lieutenant-Colonel R. H. ELLIOT, M.D., I.M.S., Madras.

This operation is suitable for the relief of both simple and congestive glaucoma, whether primary, secondary, traumatic, or post-operative; it is also valuable as a prophylactic measure. Its steps are: (1) raising a large conjunctival flap, concentric with the limbus, above; (2) splitting the cornea at the middle of the flap-base; (3) trephining the sclero-cornea as far on to the split cornea as possible; (4) iridectomy; and (5) replacement of flap. The operation is not difficult, and convalescence is rapid. The results have been excellent. More than 800 eyes have been trephined here and many have been observed for one to three years since operation. Complications are infrequent in early cases.

Discussion 4.

Affections of the Eye Produced by Undue Exposure to Light.

Abstract of Report by Professor CARL VON HESS, Würzburg.

Ordinary daylight has no discoverable effect for ill upon either the healthy or the diseased eye. The troubles in scrofulous patients called photophobia consist not in a shrinking from light, derived from the cornea or the nerves of the iris, but in disorders which can themselves have nothing to do with photophobia.

Among the disorders of the eye produced by extraordinary strength or prolonged duration of sunlight are to be found those which often occur during observation of an eclipse and snow-blindness. The first are produced chiefly by the long-wave, the latter chiefly by the short-wave, rays of the spectrum. Both can easily be prevented by proper protective glasses. Among the disorders caused by electric light, besides those which are produced by lamps which are specially rich in ultra-violet rays, the most interesting are those brought about by lightning and short-circuiting. They, too, are at any rate chiefly produced by the ultra-violet rays. The same has been accepted for glass-blowers' blindness, but the truth of this is not sufficiently established. The fear that lesions of the eyes are caused by modern sources of light is to a great extent groundless. Such a fact can always be prevented by proper hanging of the lamps. It is not necessary as a general rule to wear special protective glasses against these sources of light, and this is indicated only in cases where workmen are working for a long time continuously with artificial light specially rich in ultra-violet rays.

Abstract of Report by J. HERBERT PARSONS, D.Sc., F.R.C.S., London.

The chief affections of the eye produced by undue exposure to light—photophthalmia (including "snow blindness" and "ophthalmia electrica"), injury from the flash of a short circuit and from lightning, glassworkers' cataract, eclipse blindness, and erythropsia are discussed—after an introduction dealing with the spectrum—luminous, ultra-violet, and infra-red—and the absorption of spectral rays by the various media of the eye.

SECTION X.

DISEASES OF CHILDREN.

Discussion 1.

Treatment of Tuberculosis in Childhood from the Surgical Point of View, with Special Reference to the Bones, Joints, and Glands.

Abstract of Report by Dr. V. MÉNARD, Berck-sur-Mer.

From the standpoint of local treatment, tuberculous osteitis should be clearly separated from osteo-arthritis of that nature. Evacuation is often applicable for the cure of tuberculous osteitis, especially in the condition of fistula, whether distant from or close to the joints, especially in the latter case. The local treatment of tuberculous arthritis depends on the conservative method, which is almost always efficacious, if only it is applied solidly during the total course, which is always long, of the disease. The best operative procedures, including filling, cannot be substituted for conservative methods.

The most pressing indication for operation—septic suppuration, which threatens life, usually arises from irregularity in the conservative treatment. Surgical interference is also required as a result of associated and accidental infections and in certain anatomical forms of articular tuberculosis. Operation removes an obstacle to local repair. Such an operation is drainage, or atypical resection, which is often only drainage on a large scale. Operative mortality is minimal, except for the hip; in this case it is not an objection, since one operates to avoid an almost certain cause of death.

The results of operation are good if the after-care is rational and persevering. The contrary is the exception. In spite of the progress of medical treatment of glandular tubercle, there remains a part for surgery to play, to free the patient quickly and without inconvenience from a mass of glands limited to the groin or axilla, and even from an extensive group of caseous glands in the neck. The objection of an ugly scar does not count, if one knows how to limit the length of the incision, which is quite easy. In any case, the operation being only an aid to local repair, the patient who has been operated upon, like him who has not, can recover and preserve his general health only by the aid of favourable conditions for a long period—indeed, for the whole of life.

(For Joint Discussion with Sections VIII. and XVIII. see under Section VIII.)

Discussion 4.

Summary of Report on the Clinical Features, Diagnosis, Prognosis, and Medical Treatment of Bacillus Coli Infections of the Urinary Tract in Children.

By Dr. JOHN THOMSON, Edinburgh.

Predisposing conditions. Age and sex incidence. Girls more frequently affected; disease more often primary in them. Rigors at onset common in girls and very rare in boys. Age of affected boys less and the mortality far higher than in the case of girls. Type of fever: Rigors, convulsions, faint turns, and vomiting. General disturbance and distress. Abdominal tenderness. Enlargement of kidneys. Frequent and painful micturition. Characters of the urine. Diagnosis. Prognosis. Mortality. Relapses. Treatment. Diluents. Laxatives. Medicinal treatment. Alkalinisation of the urine. Its effect on the temperature and other symptoms, and on the course of the disease. Intestinal antiseptics. Urinary antiseptics. Serums and vaccines.

SECTION XI.

NEUROPATHOLOGY.

Discussion 1.

The Symptoms of Cerebellar Disease and their Significance.

Abstract of Report by Professor Dr. D. ROTHMANN, Berlin.

After a sketch of the new anatomical division of the cerebellar lobes and of the microscopic structure of the cerebellar elements, the different theories upon the function of the cerebellum as a whole are described, and the impossibility is shown of bringing the cerebellum into a formula of a single function. Starting from Bolk's researches in comparative anatomy, the doctrine of cerebellar localisation as it has developed from the basis of experimental observations on dogs and apes is stated at length. According to it there exist centres in the cerebellar hemispheres especially for the regulation of movement of the ipsolateral fore and hind limb. In the middle part of the cerebellum lie coördinated centres for the back and limbs, and, besides, in the anterior lobe, centres for the innervation of the neck muscles, the jaw, and the larynx. Within the limb regions a further localisation is recognisable, according to direction of movement. Loss of equilibrium and tottering movements appear only after destruction of the cerebellar nuclei. In man, in whom the compensating power of the cerebrum is considerably greater, the pathological material renders the recognition of a finer localisation difficult. After eliminating the general symptoms and the influence on neighbouring nervous areas, marked disorders of vision and of gait and Babinski's "*asynergie cérébelleuse*" are classed as middle lobe symptoms. To these are added disorders of innervation of the head and of the voice. One-sided disorders of the limbs are referred to the cortex of the hemispheres. Besides ataxy and atony it is beyond doubt that adiadochokinesis (Babinski) is a cortical symptom. Above all, however, the symptom described by Bárány, irregular movement of the limbs and joints in various directions during attempts at pointing, proves the existence of a regular localisation in the cerebellar cortex of man. The connexion of the cerebellum with the vestibular apparatus was specially brought out by Bárány's researches on caloric nystagmus. Severe disturbance of equilibrium, spasmodic conditions, and eye disturbances are connected with affections of the cerebellar nuclei.

Discussion 3.

The Relation of the Myopathies.

Abstract of Report by Professor Dr. H. OPPENHEIM, Berlin.

The myopathies are affections which exclusively, or chiefly, attack the voluntary muscles, and are not produced by any discoverable disease of the central or peripheral nervous system. To the myopathies in the strict sense belong: (1) The dystrophies; (2) congenital muscular defects; (3) myotonia congenita; (4) myatonia congenita (?); (5) myasthenic paralysis; (6) periodic paralysis of the extremities; and (7) the paralysis of (rickets and) osteomalacia.

The myopathies are distinguished by the following characteristics: (*a*) *simple* (non-degenerative) atrophy, dystrophy, paralysis or limitation of movement, proceeding with alterations of the electric irritability which do not correspond to the type of the reaction of degeneration, but appear in other forms—viz., (1) simple quantitative diminution of irritability; (2) the myotonic reaction; (3) temporary loss of irritability; and (4) the myasthenic reaction. (*b*) Extension of the functional loss according to a principle that corresponds neither with cerebral, spinal, radicular, nor peripheral innervation. (*c*) The purely motor character of the symptoms. (*d*) The tendency to familial incidence, congenital diathesis, &c. (*e*) A certain tendency to combinations and transitions. Causes of the myopathies: congenital factors, hyper-, hypo-, or dysfunction of the glands of internal secretion, external lesions, &c.

Abstract of Report by Dr. WILLIAM O. SPILLER, Philadelphia, U.S.A.

Myopathy consists of the congenital and the acquired forms. The congenital embraces the cases of arrested growth in certain limited regions. It may be from defect of muscles with complete integrity of the nerve apparatus, or the peripheral neurones may be much affected. It usually is not progressive. The acquired form is muscular in origin with intact nervous system, or is with degeneration of peripheral neurones. Amyotonia congenita in relation to myopathy and the Werdnig-Hoffmann type. Resembles myopathy, but in the greater number of cases has distinguishing features, and the exceptions show merely a transition from amyotonia to myopathy, but not identity of disease. Amyotonia may be from purely muscular lesions, or there may be alteration of anterior horn cells, in some cases slight, in others intense, when diagnosis from the Werdnig-Hoffmann type may be difficult. Distal type of myopathy. Myotonia atrophica. Hypertrophia musculorum vera, a somewhat neglected condition illustrative of different types.

(For Joint Discussion with Section VII. see under Section VII.)

Discussion 5.

The Nature of the Condition termed Parasyphilis.

Abstract of Report by Dr. F. W. MOTT.

Parasyphilis limited to tabes and general paralysis. Characterised by mild forms of infection, slight bone and skin lesions, long latent period before signs of nervous degeneration. The causes discussed. Immunity or partial immunity due to widespread latent syphilis. Causes of latent syphilis. The Wassermann reaction and disclosure of latent syphilis, congenital and acquired. Modification of the specific organism by widespread use of mercury discussed, also the possibility of infection by "mercury fast" organisms. Analogy to "arsenic fast" trypanosomes. The relation to comparative uselessness of mercury in treatment. Different forms of spirochætæ discussed in relation to analogy with trypanosomes, possible neurotoxic organism or special affinity of specific organism for the nervous system. Primary degenerative changes of neurones characteristic of parasyphilis in relation to the Wassermann reaction of the blood and cerebro-spinal fluid of the nervous system. Evidence in favour of a hypersensibility of the neurones in parasyphilis. Excess of complement fixative in the fluid drawn by lumbar puncture compared with that from ventricles indicate degenerating neurones as a source of complement fixative. Parasyphilis due to the effect either of the specific virus or the specific organism on the metabolism of the neurones in conjunction with contributory exhausting factors causing abiotrophy and proportional chronic inflammatory hyperplasia. The discovery of Noguchi and Moore of the spindioti in 12 cases of general paralysis out of 70 may lead to a change of our views in respect to the existence of parasyphilis as distinct from parenchymatous syphilis.

SECTIONS XII. AND XIX.

PSYCHIATRY AND FORENSIC MEDICINE.

Joint Discussion 5.

The Psychology of Crime.

Abstract of Report by Professor Dr. WEYGANDT, Hamburg.

The matter has been the subject of recent legislation in Hungary (1908), England (1909), and Italy (1910). The idea of crime changes, and the law is sometimes in advance of, and sometimes behind, general opinion. Crime is a product of the individual and his environment, and among the former inheritance plays the principal part. Criminals may be divided into: (1) occasional criminals; (2) emotional and inductional criminals; (3) opportunists; (4) habitual criminals; (5) professional criminals; (6) feeble-minded criminals; (7) insane criminals.

These represent progressive degrees of variation from the normal. Punishment can no longer be defended as retribution. This idea has led to much injustice, although still held by the vulgar. It seldom deters. Punishment should aim at protection from fresh crime, and may take the form of segregation of habitual criminals, industrial and reform institutions for occasional criminals, educational institutions for the young or feeble-minded, inebriate and lunatic asylums, but the duration of such segregation should depend upon the success of treatment, and should not be settled beforehand. Preventive measures are at least as important as punitive.

SECTION XIII.

DERMATOLOGY AND SYPHILIGRAPHY.

Discussion 1.

Epithelioma of the Skin—Benign and Malignant.

Abstract of Report by Dr. JOHN A. FORDYCE, New York.

Dermatological observations favour the view that epithelial hyperplasis is the result of stimulation of parasitic, mechanical, physical, or chemical origin, the amount and kind of irritation, as well as individual susceptibility, determining the result. A consideration of the precancerous affections of the skin—senile keratosis, seborrhœic warts, xeroderma pigmentosum, leucoplakia, lupus, nævi, X ray and other burns, and cicatrices. Demonstration of various types of epitheliomata belonging to the squamous- and basal-celled group. The treatment of cutaneous epitheliomata by surgical and dermatological methods, including radiotherapy.

Discussion 2.

Alopecia Areata and Allied Conditions.

Abstract of Report by Professor C. PELIZZARI, Florence.

The reporter thinks that alopecia areata should, according to modern researches, clinical, anatomical, and biological, be considered rather as a symptomatic syndrome than as an entity, that it is of nervous origin and of varying causation. He thinks also that the same hypothesis can explain the numerous and various forms which under different names indicate morbid conditions closely akin to alopecia. Such are those which locally invade the skin in its entirety, provoking remarkable trophic changes; or those which, starting from the follicular apparatus and by inflammatory processes of a special kind, result again in cicatricial atrophy. He admits finally that some clinical forms, though closely resembling one another, may be produced by morbid processes quite different, though belonging to the same group, and that the same morbid process can produce clinical types which differ according to phase of development and the area on which they act.

Abstract of Report by Dr. SABOURAUD, Paris.

In France, since the work of L. Jacquet, alopecia is no longer regarded as contagious. Jacquet, applying the researches of Head to alopecia, believes it to be of reflex origin, frequently from the gums and teeth. Professor Sabouraud remarks that this theory does not apply universally except to the one-sided alopecias of small or moderate size, and we confess to ignorance of the causation of the most serious forms. In his opinion the process of depilation in alopecia is specific, and the evolution of the massive forms seems to correspond to a general disease with various changes in the skin and nails, and with frequent coincidence of vitiligo, lupus erythematosus, psoriasis, &c. Alopecia is familial and hereditary in one-fourth of the cases, recurrent in half of them. It appears to be frequent in hereditary syphilis and tuberculosis, though not a syphilitic or tuberculous lesion. It may follow severe traumatism, whether physical or nervous. The later researches of Sabouraud show the frequency of alopecia at the menopause, and its frequent connexion with thyroid trouble in both sexes and thyro-ovarian disorder in the female.

SECTIONS XIII. AND XIX.

DERMATOLOGY AND SYPHILIGRAPHY AND FORENSIC MEDICINE.

Joint Discussion 3.

Syphilis: its Dangers to the Community, and the Question of State Control.

Abstract of Report by Professor Dr. A. BLASCHKO, Berlin.

Among the measures for combating syphilis, State control—that is, State laws against the infection produced by prostitution—is indispensable. The so-called regulation of prostitution, however, has not proved an active means of diminishing venereal diseases in any country, chiefly because such regulation does not include the most dangerous individuals. In place of regulation, therefore, a system of purely sanitary measures should be set up, which, recognising that *all* sources of infection can by no system of supervision be excluded, seeks especially to make these most dangerous elements innocuous. Such a system, such as that for instance already existing in Norway, should apply equally to both sexes, and should not officially label individuals as prostitutes or impose exceptional regulations such as registration, inspection, and police control. While for most cases it would suffice to facilitate for all citizens opportunity of treatment, it would only be necessary in the case of specially dangerous classes, the *youthful*, the *weakminded*, and the *depraved*, which are richly represented among prostitutes, to institute measures of compulsory education, and, if they pursued their occupation while actually diseased, compulsory treatment with consequent control until recovery.

Abstract of Report by Major H. C. FRENCH, R.A.M.C.

Owing to the Insurance Act syphilis must in time become notifiable on financial grounds. It is requisite that the medical profession act unanimously, to ensure that adequate steps are taken by the State as regards the control of syphilis. The State control of disease is an absolutely different matter

from the State regulation of vice. The model for a concrete scheme should be based on the Cantonment Code of 1899, India. The first essential is to obtain legal control of syphilis by a system of confidential medical notification, and the disposal of diseased persons in hospital in early contagious stages and adequate treatment ensured.

Abstract of Report by Professor GAUCHER and Dr. GOUGEROT, Paris.

The authors study the principal modes of contagion and set forth the measures adopted to combat them. Applying themselves especially to the problem of syphilitic prostitutes they oppose the regulation system in vogue and propose:—Organisation of the treatment of syphilitic prostitutes by "abolitionism," comprising the application of the proposals that the French Extra-Parliamentary Commission drew up in 1906; suppression of trapping, procuration, and the White Slave Traffic. That the transmission of syphilis be made a penal offence. Protection and re-education of young girls who have become prostitutes at an early age, and of adult prostitutes. Prevention of prostitution by the establishment of paternity; by according the rights of a legitimate wife to the victim of seduction; by punishment, pecuniary or penal, for desertion of a mistress by her lover. Protection of the young girl by after-school education through the institution of workroom instruction. Moral education and a change of public opinion; reinforcement of the idea of family; severe punishment of adultery; earlier marriage.

SECTIONS XIII. AND XX.

DERMATOLOGY AND SYPHILOGRAPHY, AND NAVAL AND MILITARY MEDICINE.

Joint Discussion 4.

The Treatment of Syphilis with Salvarsan and Allied Substances.

Abstract of Report by Lieutenant-Colonel T. W. GIBBARD and Major L. W. HARRISON, R.A.M.C.

The authors have tried seven different schemes of treating syphilis with salvarsan, and have obtained the smallest percentage of relapses with a course of two injections of salvarsan and nine of mercury. Comparing the results of this scheme of treatment with that which follows the exclusive use of mercury it appears that the routine treatment of syphilitic soldiers in the British army with salvarsan and mercury will effect an annual economy equivalent to the cost of keeping a battalion of infantry in hospital for over three months. A comparison between the results of commencing treatment in the primary and secondary stages respectively shows the very great importance of commencing treatment in the primary stage. Epileptiform convulsions and death after salvarsan injections are discussed, and the argument is advanced that they are due to salvarsan poisoning of susceptible patients and may possibly be avoided by giving injections at longer intervals so as to avoid any cumulative action. Analysis of reactions after salvarsan injections seems to show that febrile symptoms are due to spirochæte endotoxins, but vomiting and diarrhœa to salvarsan. Cranial nerve disturbances are due to syphilis, not to salvarsan. Salvarsan is a sufficiently safe remedy to justify its routine use for the treatment of syphilis in the army. The report is illustrated with four tables.

SECTION XIII.

DERMATOLOGY AND SYPHILOGRAPHY.

Discussion 5.

Vaccine Treatment of Diseases of the Skin.

Abstract of Report by Professor T. CASPAR GILCHRIST.

1. The treatment of various cutaneous diseases with autogenous and stock vaccines with varying results.

2. The treatment of some selected cases of skin diseases with the living micro-organisms—e.g., a few cases of blastomycetic dermatitis were treated with increasing doses of the filtrate with excellent results.

3. The application of different strengths of ointments made up with dead micro-organisms and a base to various cutaneous diseases, especially eczema. Results undecided as yet.

4. The use of vaccines made from autogenous cultures obtained from fæces of patients suffering from various skin diseases, especially the toxic forms. Results in some cases very good, in others variable.

5. Vaccines made from bacillus coli, used in a number of cutaneous diseases, especially urticaria, with varying results.

Abstract of Report by Professor A. WHITFIELD.

1. In diseases which run an acute course, terminating in death or recovery—e.g., erysipelas—vaccine treatment may determine recovery.

2. In diseases which consist of a series of acute lesions—e.g., furunculosis—vaccine treatment may inhibit the appearance of fresh lesions.

3. Diseases which tend to become chronic—e.g., sycosis—may be crushed at their beginning, but if old-established prove refractory.

4. Non-progressive tuberculosis—e.g., erythema induratum—may be favourably influenced by the method of reaction. Lupus may possibly be improved in certain cases by the method of immunisation, but the results are so slight and indefinite that the method should be used only as an adjuvant to more certainly curative measures.

SECTION XIV.

UROLOGY.

Discussion 1.

The Diagnosis and Treatment of Early Malignant Disease of the Prostate.

Abstract of Report by HUGH H. YOUNG, M.A., M.D., Baltimore, U.S.A.

Twelve early cases of carcinoma studied in detail. The early symptoms are not different from that of benign hypertrophy. Pain and hæmaturia not early symptoms. Diagnosis based on presence of marked induration—either a small nodule or a lobule, or a whole lobe or the entire prostate—with or without infiltration beneath the trigone. Carcinoma is accompanied by benign hypertrophy in 50 per cent. of the cases, the cancer being separate and occupying the posterior subcapsular portion in almost all cases. Radical operation must include the whole prostate, a cuff of the bladder with most of the trigone, and both seminal vesicles (the author's operation). Six cases, with three radical cures (10 and 5 years) in cases with small cancer nodules completely excised by less radical operation, reported. Forty-six cases of extensive carcinoma operated by conservative perineal prostatectomy, with 65 per cent. permanent relief of obstruction and only two deaths, reported.

Discussion 3.

Acute Hæmic Infections of the Kidney.

Abstract of Report by GEORGE EMERSON BREWER, M.D., New York.

Hæmatogenous infections of the kidney have been observed for years, but the importance of the subject not adequately recognised until recently. Experimental evidence completely proved that in the presence of bacteriæmia, from whatever cause, one or both kidneys may become the seat of an infective lesion. In the great majority of cases these lesions are unilateral, due to diminished resistance of that particular organ as the result of trauma, previous septic disease, calculus irritation, anæmia, passive hyperemia, obstruction of the ureter, intermittent or permanent hydronephrosis. The passage of pathogenic organisms through such a kidney results often in bacterial emboli lodging in the small arterioles or capillary vessels. As the result of the former we have triangular infarcts; as the result of the latter we have multiple embolic foci, resulting in cortical miliary abscesses.

Clinically considered, hæmic infections of the kidney may be divided into three types—the fulminating, the intermediary, and the subacute. The fulminating type is often unrecognised, and is almost invariably fatal unless treated by early nephrectomy. The intermediary type is dangerous, not on account of its initial toxæmia, but for the reason that it is rarely recognised until one of the gross pathological lesions, as pyelonephritis, pyonephrosis, renal abscess, or perinephritis has developed. The clinical text-book lesions represent the terminal stage in both the ascending and hæmic types of renal infection. Their presence indicates

faulty early diagnosis. The treatment of this intermediary type is by early decapsulation, and the opening and draining of cortical abscesses or areas of necrosis. The third, or mildest, type is not a surgical condition, and is of interest to the surgeon only in that it furnishes a rational explanation for the concurrence of the so-called "idiopathic pyelitis."

SECTION XV. AND XVI.

RHINOLOGY AND LARYNGOLOGY AND OTOLOGY.

Joint Discussion 2.

The Methods and Results of Treatment of Diseases of the Throat, Nose, and Ear by Salvarsan and Other Arsenical Compounds.

Abstract of Report by Dr. ANDRÉ CASTEX, Paris.

1. That salvarsan and neo-salvarsan are often useless, and occasionally harmful, to the ear, for they seem to fix syphilitic poison on the nervous system.
2. That in the cases where mercury has been employed on the same patient it has shown itself the more efficacious.
3. That on the other hand "606" is useful in syphilitic affections of the nose, the pharynx, and the larynx.
4. That atoxyl leaves the patient liable to neuritis, and hectine is of little utility.

The employment, therefore, of these arsenical products appears to me of a moderate importance in oto-rhino-laryngology.

Abstract of Report by Professor Dr. P. GERBER, Königsberg i/Pr.

According to our present experience the arsenical compounds play a part of the first importance in the treatment of spirochætal diseases of the nose, throat, and ear. In the case of atoyxl the "neurotropic" effect is too severe in comparison with the "spirochætotropic" to enable it to hold a place in therapeutics. Only with salvarsan and neosalvarsan is the relation of these two effects, thanks to the brilliant work of Ehrlich, so far reversed that the great powers which lie hid in arsenic can be made of service for human suffering. These substances possess for all diseases of the throat, the nose, and the ear which are brought about by spirochætæ or are connected with them a specific activity found in no other bodies. They produce no ill-effects as all the other drugs do. Only in the organ of hearing the auditory nerve, should on account of its special susceptibility, receive special attention under arsenical treatment.

Joint Discussion 4.

The Special Treatment of the Throat, Nose and Ears during the Active Stage of Certain Infectious Diseases.

Abstract of Report by E. W. GOODALL, M.D.

The subject is considered under four heads: (1) A brief description of the morbid condition of the fauces, nose, and ears met with in the infectious diseases; (2) the results to which these conditions may give rise; (3) the class and proportion of cases in which they may be expected to occur; and (4) the treatment. This is discussed under two headings: (1) local—local applications, removal of adenoids, &c.; (2) general—by serums and vaccines.

SECTION XVI.

OTOLOGY.

(For Joint Discussion with Section XV. see under Section XV.)

Discussion 6.

Climatic and Occupational Influences in Diseases of the Ear.

Abstract of Report by CLARENCE JOHN BLAKE, Professor of Otology, Harvard University.

The influence of normal climatic changes upon diseases of the ear directly is slight, and is principally exerted through the medium of such associated organs as the nose and naso-pharynx, or in participation with changes in a systemic condition. The influence of the artificial climatic conditions of the trades and occupations is much more pronounced and operative through the same media; there being, however, one especially detersive influence common to many occupations and accompanying many living conditions, operative directly through the sound-transmitting apparatus of the middle ear and deleteriously effective in the internal ear, which has only recently come under definite scientific and sociological consideration—namely, unnecessary noise.

SECTION XVII.

STOMATOLOGY.

Discussion 1.

The Pathology and Treatment of Periodontal Disease (Pyorrhœa Alveolaris).

Summary of Remarks by Mr. ERNEST B. DOWSETT.

That gingivitis is the primary lesion, and due to inefficient modes of, or no attempt at, cleansing. That mouth-breathing, inefficient inarticulation, and the wearing of dentures are strong predisposing factors. That the condition of the teeth often shows that the disease is far deeper seated than appears clinically. That a cure by conservative methods can be hoped for only when the pockets are quite shallow. That recurrences are very frequent on account of patient's not keeping up the local treatment and maintaining oral cleanliness. That in cases with general symptoms, all the affected teeth should be removed, except the incisors and premolars with quite shallow pockets. That vaccine therapy is unnecessary in the majority of cases.

Discussion 2.

The Relation of Nasal Obstruction to Dental Disease.

Abstract of Report by Dr. JULES FERRIER, Paris.

Nasal obstruction produces disturbance in the function of the upper air passages with the following results:—

1. *In the cranium*—diminution of the transverse diameter of the base.
2. *In the upper jaw*—arching of the palate.
3. *In the lower jaw*—diminution of the transverse dimensions, opening of the angle, inclination of the vertical axis of the horizontal ramus towards the middle line. The dental arcades change their directions in harmony with the alveolar processes.

The articulation is modified in consequence. The physiognomy of these deformities and abnormalities is often modified in certain points by malformations due to a disturbance of development.

Discussion 3.

Dental Diseases in Relation to Public Health.

Abstract of Report by J. SIM WALLACE, D.Sc., M.D., L.D.S.

The diseases of the teeth are extremely common and lead almost inevitably to many other ailments, often serious. Such diseases cost the public many millions of pounds annually. The diseases which result from the same errors as those which cause dental diseases are also numerous and costly. The treatment of dental diseases is expensive and of but temporary utility. The prevention of dental diseases by physiological means is simple and free from expense. The physiological method of preventing dental diseases has resulted in an enormous decrease of these diseases wherever the method has been adopted.

Abstract of Report by Dr. HAROLD WILLIAMS, Boston, U.S.A.

After a brief *résumé* of the importance of diseases of the mouth in the causation of local and general diseases, Dr. Williams describes at some length the details of the method by which Boston expects to cope with the problem of the prevention of oral diseases through the ministrations of the Forsyth Dental Infirmary for Children. This institution, founded by Messrs. John Hamilton and Thomas Alexander Forsyth, costing in the neighbourhood of $500,000 and amply endowed, is rapidly nearing completion, and will be open to the public in the present year. An illustration of the building and descriptive diagrams are shown and the attempt of the foundation to apply asepsis to dentistry as it is applied to surgery is described.

Discussion 5.

Reflex and Functional Disturbances in Connexion with the Teeth.

Abstract of Report by Dr. ROUSSEAU-DECELLE, Paris.

After showing, by evidence drawn from anatomy, physiology, and clinical practice, the distinct reflex activity of the

trigeminal nerve, the author studies the various forms of gingivo-dental irritation produced as reflexes and their different mode of action according as they are, acute or chronic, of the pulp or of the alveolus. He next passes in review the various ricochets (*répercussions*) upon the organs of sense, skin, glands, nerves, and viscera, to which these irritations give rise, and lays special stress upon the cutaneous effects. He concludes by formulating the reasons why these secondary effects are so inconstant and so variable.

SECTION XVIII.

HYGIENE AND PREVENTIVE MEDICINE.

Discussion 1.

The Effects of Dust in Producing Diseases of the Lungs.

Summary of Report by EDGAR L. COLLIS, M.B., M.R.C.S. &c., H.M. Medical Inspector of Factories.

This paper summarises many inquiries, reports upon which are only to be found in Government publications, into effects produced by dust, and from evidence so obtained two propositions are considered: (1) Dusts are injurious in proportion as they differ chemically from the composition of the human body; and (2) those dusts which contain free crystalline silica are associated with an excessive death-rate from phthisis, which increases with the amount of silica inhaled. Dusts of animal, vegetable, and mineral origin are discussed, and positive and negative evidence is quoted in support of the above propositions. Particular attention is devoted to the relation existing between silica dust and phthisis, and phthisis so caused is claimed to show certain characteristics distinguishing it from phthisis due to other causes. Stress is also laid on the different types of respiratory diseases found among those exposed to different dusts, and the theory is suggested that these differences depend rather on the chemical composition than on the shape of the dust particles.

(For Joint Discussion with Sections VIII. and X. see under Section VIII.)

Discussion 3.

The Factors that Determine the Rise, Spread, and Degree of Severity of Epidemic Diseases.

Abstract of Report by Mr. MAJOR GREENWOOD, jun., London.

After noticing the classical definitions of an epidemic, the subject is divided into two parts. In the first, the secular variations of epidemic diseases are considered, with special reference to the history of scarlet fever, and certain possible explanations of the secular changes are examined. In the second part the immediate phenomena of an epidemic are discussed, and the methods by which such phenomena may be investigated are described. Where possible, statistics are cited, and some notes on the quantitative analysis of such material are given in the appendices.

Abstract of Report by Professor Dr. G. STICKER, Bonn a/Rh.

The best known examples, influenza, plague, cholera, have shown that to discover the conditions of parasitic epidemics we must avoid all generalisation, and must study each malady by itself and in its environment, historically, geographically, biologically, nosographically, experimentally—in short, scientifically. It is never enough to consider it from an anthropocentric standpoint as only a human disorder, but for the advance of epidemiology a higher standpoint, that of the loimologist, is necessary. The loimology of the future has for its object to discover what places and what times are favourable to each epidemic disease and what unfavourable, either continuously or for a time; whether and how far animals and plants take part as victims or as carriers of the germ of the human disease; where the original nidus of the germ lies hidden, what is its importer, whether there are animal or vegetable or lifeless undercarriers or intermediaries; whether the disease is spread by hosts which are themselves healthy, or by lifeless material, what other epidemic disorders are either occasionally or regularly connected with the parasitic epidemics, so as to aid their progress or increase their severity, and to influence the severity of the several diseases.

Discussion 5.

Schools and Myopia.

Abstract of Report by Dr. JAMES KERR, London.

High-grade myopia in children requires special education in so-called myopic schools. The prevalence in the population of a mass of low-grade myopia, largely associated with excess of eye work, calls for prophylactic school treatment, in the diminution of all book work, and its practical elimination before the age of eight. The lighting of schools requires much improvement, and back lighting as the main source of illumination in class-rooms should be absolutely prohibited. A stringent rule to exclude myopes from literary careers should refuse scholarships to myopes of 4/D or more, and all candidates for the teaching profession should be rejected for myopia of 6/D or more.

The Causes, Prevention, and Treatment of Visual Defects in School Children.

Abstract of Report by Professor R. POSSEK, Gratz.

The chief cause of defect of sight in school children is myopia, which develops indirectly from the nearness of the work in school time. According to Levinsohn's observations, which the reporter can confirm, it is the bending of the head which produces in the eyes by the force of gravitation a traction on the hinder quadrant of the eye. On that account it is necessary to prevent everything that leads to bending of the head. As well as avoiding every difficulty which leads to a shortening of the work distance, such as bad lighting, small print, unsuitable seats, &c., it is most important to introduce a greater angular elevation of the desk table, accurate medical control by specially trained school doctors, early correction for myopes.

SECTION XIX.

FORENSIC MEDICINE.

Discussion 1.

The Medico-legal Aspects of Infant Mortality.

Abstract of Report by Professor Dr. F. STRASSMANN, Berlin.

Two specific modes of death in young children occupy the medico-legal practitioner, smothering by negligence and wilful starvation. They can be diagnosed in the absence of other causes. Yet such cases rarely occur, almost always the death is natural. The rôle of the thymus is still doubtful. The author does not deny the possibility of a fatal compression by an enlarged thymus, nor yet the existence of a status thymicus; yet both are rare in practice. Usually the doctor finds bronchitis, enteritis, or both together. Only as a coincidence do enlargement of the thymus, severe rickets, or dilatation of the heart occur. Even atrophy is no common event. By itself it does not warrant the diagnosis of insufficient nourishment, which, in the rare cases in which it can be determined, is usually proved by the evidence of witnesses, which the anatomical appearances only confirm. Improper feeding of hand-fed infant can, if proper instructions have been given, be prosecuted as homicide by carelessness; but in view of the divergent views on the feeding of children only very gross errors can be thus considered. To prosecute for withholding the natural nourishment appears to the author a mistaken policy.

Discussion 2.

The Teaching of Forensic Medicine, including the Construction and Equipment of a Medico-Legal Institute.

Abstract of Report by Professor Dr. H. ZANGGER, Zürich.

The task of an institute of legal medicine and of education in this subject consists in carrying out in theory and practice the claims that various legislations make on medicine. This consists specially in the quantitative and qualitative determination of facts whenever any circumstances, which have legal consequences, have either actually or by hypothesis been brought to bear upon the human body or its component parts (in penal law, civil law, contract law, and insurance). Here it is only the comparative study which will suffice within a short time to produce vivid effect. The student must follow up the individual case with personal interest and responsibility right up to the consequences of the verdict. He must learn the method, the choice of methods, and above all the reliability of the various methods

under various conditions. The chief thing is the reconstruction of the process and causes of the lesions from the dynamic and substantial conditions referred to the time of the incident.

(For Joint Discussion with Section XIII. see under Section XIII.)

SECTION XX. AND XXI.

NAVAL AND MILITARY MEDICINE AND TROPICAL MEDICINE.

Joint Discussion 5.

Sanitary Organisation in the Tropics.

Abstract of Report by Colonel P. HEHIR, I.M.S.

Colonel P. HEHIR, I.M.S., Assistant Director of Medical Services, Burma Division, submits a paper on Military Sanitary Organisation in the Tropics, in which he dealt with the requirements of a sanitary service for large forces in a settled tropical country. He considers the sanitary organisation of the army of the Indian Empire to be the most comprehensive, practical, and, as the results show, the most efficient in existence, and he presents it as a model of what military sanitary organisation in the tropics should be. He specially emphasises the importance of making combatant officers of units responsible for the sanitary condition of their barracks and surroundings and the hygienic welfare of troops, and he is of opinion that the institution of regimental sanitary detachments in units has been of inestimable value to the health of the army in India.

Abstract of Report by Dr. HINTZE, Berlin.

Sanitary organisation in German colonies varies in tropical and sub-tropical protected districts, according to whether such districts contain protected troops or not, and whether such troops are white or coloured. The *personnel* consists for the civil medical service of Government doctors and sanitary assistants, for military service of sanitary officers and non-commissioned officers, and in addition for both services of nursing sisters. The duties and pay of the *personnel*. Its activity in hospitals, military lazarettos, convalescent homes, polyclinics and in expeditions. Lying-in homes in South-West Africa. Campaign against sleeping-sickness. Scientific research. Furnishing reports. Sanitary material, its provision and distribution. Sanitary equipment of the troop.

SECTION XX.

NAVAL AND MILITARY MEDICINE.

(For Joint Discussion with Section XIII. see under Section XIII.)

Discussion 7.

Caisson Disease.

Abstract of Report by Staff-Surgeon R. W. G. STEWART, R.N.

Special precautions to be observed in the case of divers. Recent cases of illness caused by diving under present conditions. The importance of a free supply of air. Amount of air required. Effects of high pressure of CO_2 in air of helmet. Danger of rapid decompression. Procedure necessary when diver has been "blown up." Use of recompression chamber. Decompression after repeated descent. Treatment of caisson disease when diver is unconscious and (*a*) in diving dress, (*b*) out of diving dress. Danger of diving on wrecks. Influence of fatness. Danger after prolonged exposure in deep water.

Discussion 8.

The Physiology of Physical Training and Marching.

Abstract of Report by Dr. BUCHINGER, Flensburg.

The author reviews briefly the most important facts in the physiology of exercise. Then follows, with reference to the marching experiments of Zuntz and Schumburg, a short summary of the results of their researches. The author next goes somewhat more deeply into two separate questions which he considers specially important. First, he discusses the influence of alcohol on exercise and marching. He advises total abstinence for every athlete, sportsman, and soldier. Next, he turns to the equally important subject of diet. He brings forward a series of scientific facts and observations which speak in favour of a vegetarian diet, especially for feats of endurance. Finally, he advises that for the army marching experiments be instituted with detachments living on a vegetarian diet, that these should be conducted by trained physiologists, and that the authorities should participate in experiments on diet.

SECTION XXI.

TROPICAL MEDICINE AND HYGIENE.

Discussion 1.

On Plague—Résumé on the Value of the Search for Rat-Fleas in the Discovery of the Plague Germ.

Abstract of Report by S. KITASATO, Japan.

Since the bubonic plague, unlike the pulmonary, is chiefly spread by the rat family, a different method of prevention is necessary. The early detection of the germ and the elimination of the plague carriers (chiefly rodents) are some of the most recommendable requirements. Consequently the bacteriological examination and extermination of rodents have been resorted to. But the results of the systematic observation that was carried out in Kobé City at the outbreak of 1909–10 have confirmed the flea theory and led us to the conclusion that the bacteriological examination of the rat-fleas that have been collected by means of guinea-pig tests is necessary, besides the examination of rats; for, while the examination of rats had had a negative result the 3336 guinea-pigs disclosed the infection with a number of victims and the discovery of the infected rat-fleas, when they had been allowed to run free at 774 different places.

Some Facts of Importance in the Epidemiology of Plague.

Abstract of a Report by Major W. GLEN LISTON, C.I.E., M.D., D.Ph., I.M.S.

1. The bacillus does not remain for long a potential source of infection outside the body of a living animal or insect.

2. The measures which are required to prevent the spread of plague must be modified as we have to deal with the pneumonic or bubonic type of the disease. The prospect of checking pneumonic epidemics where infected persons are the sole distributing agents of infection is much more hopeful than the prospect of bringing to a close an epidemic of bubonic plague where rats and their fleas are the chief agents which diseminate the disease.

2.

The Immunity of the Mus Rattus to Plague Infection.

When bubonic plague breaks out in a locality it appears suddenly, one epidemic follows another for a period of years, the early epidemics are generally more severe than the later, till gradually the epidemics decline and the disease finally disappears irrespective of any special measures adopted to check it. A place which has been so infected remains free for a period of years. These phenomena must be explained by any satisfactory theory of the etiology of this disease. Bubonic plague in man is dependent on plague in rats. Curves illustrating the relationship between rat plague and human plague in Bombay for a period of six years. More than 700,000 rats examined at the Barel Laboratory and over 69,000 found infected. Experiments by the Plague Research Commission go to show that the immunity of rats (M. rattus) is greatest in places which have suffered most severely from plague.

(For Joint Discussion with Section XX. see under Section XX.)

Discussion 4.

Leishmaniasis.

Abstract of Report by Professor A. LAVERAN, Paris, and Dr. C. NICOLLE, Tunis.

This report is divided into five parts: History. Medical Geography. Mediterranean Kala-azar of Children. Mediterranean Kala-azar of Animals. Relation of the Mediterranean Kala-azar to the Indian. The authors maintain, in conclusion, that the differences formerly invoked as existing between the two forms of kala-azar tend more and more to disappear, and that probably the identity of the two will soon be established.

SECTION XXII.

RADIOLOGY.

Discussion 3.

The Use of Radium in Malignant Disease.

Abstract of Report by Dr. ROBERT ABBÉ, New York.

1. Radium has established its claim as a cure for the early stages of malignant disease, in contrast to surgery, cautery, and caustics, which are destructive and removing agents.

2. While the alpha rays are bactericidal and destructive, the gamma rays are alterative and repressive, inducing retrograde cell action or inhibition.

3. Radium effect on seeds and plant life is the same as on a tumour, and shows: near-by cells are destroyed, next nearest are stimulated, and beyond that, in the gamma range, progressive retrograde changes are induced.

4. Massive doses of 100 mg. or more filtered through lead or through air (i.e., distance four or five centimetres) give the best results for study.

5. Advanced basal cell epithelioma (rodent ulcer cases) quickly cured by radium, have remained cured nine or ten years.

6. Epitheliomas caused by Roentgen ray stimulation are as promptly cured by radium as others.

7. Certain small cell sarcomas engulfing normal tissues have been promptly cured, and a reassembling of cells from the tumour mass has restored the parts completely.

8. Destructive giant cell bone tumours are altered by radium, disappear, and are replaced by true bone.

9. The effect on extensive papillomas, including laryngeal, is uniformly curative.

10. Uterine fibroid tumours have disappeared under radium application.

11. Hypertrophic gland structures, thyroid and parotid, are reduced, and some have permanently disappeared for many years.

12. Oöphorectomy for retrograde of recurrent mammary cancer (Beatson's operation) suggests the possibility of inhibiting diseased germinal cells in similar fashion, by suppressing ovarian secretion by radium rays. Possibly the reduction of uterine fibroids may be explained by radium suppression of ovarian action, as it is known that removal of ovaries causes fibroid disappearance.

13. Its effect in gland structures suggests its use in organo-therapy.

14. Recurrent cancer of the breast and uterus can be reduced by large doses of filtered radium.

(For Joint Discussion with Section VIII. see under Section VIII.)

(For Joint Discussion with Subsection VIIA see under Subsection VIIA.)

SECTION OF HYGIENE AND PREVENTIVE MEDICINE.

THE President of this section is Dr. Arthur Newsholme, and the secretaries are Mr. A. S. Arkle, Dr. J. C. G. Ledingham, Dr. G. F. McCleary, and Dr. W. G. Willoughby. The meeting place of the section is the Lecture Theatre, Victoria and Albert Museum, South Kensington.

Morning sessions.—The following discussions have been arranged:—

Thursday, August 7th: The Effects of Dust in producing Diseases of the Lungs. Reporters: Dr. E. L. Collis, London; Professor F. Heim, Paris. The following are expected to take part in the discussion: Professor Luigi Carozzi, Milan: Professor Dr. Sommerfeld, Berlin; Professor Matthew Hay, Aberdeen; Sir T. Oliver, Newcastle. Dr. H. Scurfield, Sheffield; Dr. J. S. Haldane, Oxford.

Friday, August 8th: Infant Mortality in the First Four Weeks of Life. (Joint discussion with Sections of Diseases of Children and Obstetrics). Meeting place, Jehangir Hall, University of London. Reporters: Dr. A. K. Chalmers, Glasgow; Dr. Henry Koplik, New York; Professor Wallich, Paris.

Saturday, August 9th: The Factors that Determine the Rise, Spread, and Degree of Severity of Epidemic Diseases: Reporters: Dr. Major Greenwood, London; Professor Dr. G. Sticker, Bonn. The following are expected to take part in the subsequent discussion: Professor Sudhoff, Leipzig; Dr. J. Brownlee, Glasgow; Dr. E. W. Goodall, London; Dr. W. H. Hamer, London.

Monday, August 11th: The Supervision of the Health of Children between Infancy and School Age. (Joint discussion with Section of Stomatology.) Meeting place, Lecture Theatre, Victoria and Albert Museum. Reporters: Dr. R. Dinet, Paris; Mr. W. W. James, London; Dr. W. Leslie Mackenzie, Edinburgh. The following are expected to take part in the subsequent discussion: Dr. D. Forsyth, London; Primarius E. Deutsch, Budapest; Dr. Keith Shaw, Albany, N.Y.; Dr. H. I. Gerstenberger, Cleveland, Ohio; Dr. C. P. Lapage, Manchester.

Tuesday, August 12th: The Causes, Prevention, and Treatment of Visual Defects in School Children. Reporters: Dr. James Kerr, London; Professor Dr. R. Possek, Graz. The following are expected to take part in the subsequent discussion: Dr. L. A. Parry, Hove; Dr. Hans Lauber, Vienna; Dr. G. Lewinsohn, Berlin; Professor Dr. Greef, Berlin.

Afternoon sessions.—The following papers will be taken:—Thursday, August 7th: 1. Die Bleivergiftung im Buchdruckereigewerbe und ihre Prophylaxe; Dr. Dezso Hahn, Budapest. 2. The Invasion of America by Pellagra; Dr. K. Heberden Beall, Fort Worth, Texas, U.S.A. 3. Untersuchungen über die Desinfektionskraft einiger der Gebrauch, lichsten Desinfektionsmitteln; Dr. Bernard Vas, Budapest. Friday, August 8th: 1. Registration of Still-births; Dr. R. Dudfield, London. 2. La Diffusion du Croup à Naples; Professor Alfonso Montefusco, Naples. 3. Sozialhygienische Ueberwachung der abnormen Kinder; Primarius E. Deutsch, Budapest. 4. Preventive Control of Tuberculosis in the Tropics; Dr. Angus MacDonald, Kingston, Jamaica. Monday, August 11th: 1. The Causes of Epidemics and the Laws which Regulate their Course; Dr. J. Brownlee, Glasgow. 2. Teaching in Open-air Schools; Dr. Gedeon Biro, Budapest. 3. The Necessity for State-endowed Hospitals and a State Medical Service; Dr. J. MacWalter, Dublin. 4. Preventive Medicine Attainable only by Compulsory General Medical Education; Dr. A. L. Soresi, New York.

Sectional dinner.—This will take place at the Trocadero Restaurant on Friday, August 8th, at 7.30 P.M. Tickets 7*s.* 6*d.* per head. Members desiring to be present should notify Dr. Ledingham, Lister Institute, Chelsea Gardens, S.W. Members may invite guests, including ladies.

Visits to institutions.—The following visits of interest to members of the Section of Hygiene and Preventive Medicine have been arranged:—

1. City of Westminster Health Society. Infant Medical Inspection Centre (Dr. D. Forsyth), 11, Golden-square. Friday, August 8th, at 3 P.M. to 5 P.M.

2. St. Marylebone General Dispensary. Infant Consultation Department (Dr. Eric Pritchard). Thursdays, August 7th and 14th, at 3 P.M. Tuesday, August 12th, at 11 A.M. The number of visitors must be limited to 25 on each day.

3. Metropolitan Asylums Board. Visits to selected Fever Hospitals. On August 12th and 13th, at 3.30 P.M., the following hospitals will be open to members of the Congress: 1. Brook Hospital, Shooter's Hill, Woolwich. 2. South-Western Hospital, Landor-road, Stockwell, S.W. 3. Eastern Hospital, Homerton-grove, N.E. 4. North-Eastern Hospital, St. Ann's-road, South Tottenham, N. Special points of interest to be noted will be: (*a*) Isolation of various infectious diseases in cubicles at the South-Western; (*b*) isolation in glass cells at the Eastern; (*c*) individual isolation in a general ward (bed isolation) at the North-Eastern; (*d*) general principles of construction and administration at the Brook; (*e*) ambulance stations attached to the Brook and Eastern Hospitals. Visitors to each institution will be conducted round the wards by the medical superintendent. Descriptive notes in English, French, and German will be supplied at each hospital.

4. Metropolitan Water Board. Water Examination Department, 20, Nottingham-place, W. The director, Dr. A. C. Houston, will be glad to receive visits from members of the section.

5. Metropolitan Water Board. Arrangements have been made for visiting King George's Reservoir, near Enfield Lock, on Saturday, August 9th, and Wednesday, August 13th, at 3 P.M. on each day. (The works are about one mile from Enfield Lock Station on the Great Eastern Railway.)

6. The Royal Sanitary Institute, 90, Buckingham Palace-road, S.W. Members of the section are invited to visit this institute and the Parkes Museum on Tuesday, August 12th, at 4 P.M.

7. Hampstead Garden Suburb, N.W. The Board of the Hampstead Garden Suburb Trust invites members of the section to visit the Garden Suburb on Monday, August 11th, at 4 P.M., when various types of houses for different classes and the planning and apportionment of open spaces will be demonstrated.

8. Visits to institutions under control of London County Council. (Medical inspection of school children, industrial schools, open-air schools, model lodging-houses, &c.) (1) London Hospital, Medical Inspection of School Children; August 12th, forenoon; conductor, Mr. G. Chaikin and an organiser. (2) Birley House London County Council Open-air School, London-road, Forest Hill, S.E.; August 9th, afternoon; Dr. Forbes. (3) Commercial-street London County Council School, Whitechapel High-street, E.; Fairclough-street London County Council School, Backchurch-lane, Commercial-road East, E. Berner-street

London County Council School, Commercial-road East, E.; August 13th, afternoon; Dr. C. J. Thomas and Dr. F. C. Shrubsall. (4) Brixton Hill London County Council Industrial School, 54 and 56, Brixton-hill, S.W.; August 11th, afternoon; Dr. Thomas and Dr. Shrubsall. *(5) London County Council Main Drainage, Crossness Outfall Works; August 13th, 9.45 A.M.; Dr. Thomas. *(6) Bruce House, Kemble-street, Drury-lane, W.C.; August 13th, 10 A.M.; Mr. Berry. * Early intimation should be given as the parties will be limited to 20 each. (*a*) The meeting place and (*b*) the nearest railway station are as follows:—(1) (*a*) General hall at hospital; (*b*) St. Mary's, Whitechapel. (2) (*a*) At school; (*b*) Lord-ship-lane (S.E. & C.D. Railway). (3) (*a*) At Commercial-street London County Council School; (*b*) Aldgate East or Aldgate. (4) (*a*) At school; (*b*) Brixton (S.E. & C.D. Railway). (5) (*a*) Charing Cross Steamboat Pier; (*b*) Charing Cross (underground). (6) (*a*) Bruce House.

The acting secretary is Dr. Ledingham, Lister Institute, Chelsea Gardens, to whom communications regarding the work of the section should be sent.

Freemasonry.

A masonic meeting for members of the Congress will be held on Monday, August 11th, at Freemasons' Hall, Great Queen-street, W.C. Admission will be by ticket, and these can only be obtained on personal application at Freemasons' Hall on Friday, August 8th, between 10 A.M. and 5 P.M., or on Saturday, August 9th, between 10 A.M. and 1 P.M. Tea and coffee will be served in the Connaught Rooms, which adjoin Freemasons' Hall, from 3.30 P.M. The lodge will be opened at 4.30 P.M., and the chair will be taken by the M.W. Pro-Grand Master, the Right Hon. Lord Ampthill, G.C.S.I., G.C.I.E. The lodge will be closed about 6 P.M. The honorary secretary of the meeting is Dr. R. J. Probyn-Williams, 13, Welbeck-street, Cavendish-square, W.

THE INTERNATIONAL ASSOCIATION OF MEDICAL MUSEUMS.

Although not strictly a part of the International Medical Congress, the Second Triennial International Meeting of the International Association of Medical Museums will be held in connexion therewith, under the presidency of Professor A. S. Warthin, of the University of Michigan. The secretary-treasurer is Dr. Maude Abbott, of Montreal, and the assistant secretaries are Dr. W. W. Francis and Dr. Joseph Kaufmann, also of Montreal. The opening meeting on August 5th will be held at 2.30 P.M. in the Museum of the Royal College of Surgeons, Lincoln's Inn-fields. The two subsequent meetings will be held at the same hour at the Museum of the International Congress of Medicine, Imperial College of Science, South Kensington, on August 6th and 7th respectively.

Tuesday, August 5th: After the transaction of the usual official business, including the election of new members, a discussion on the Improved Organisation of the Association on the International Basis and Proposed Changes in the Constitution, and the election of officers, the President will deliver his presidential address on The Ideals and Functions of the International Association of Medical Museums.

Wednesday, August 6th: Discussions on various questions submitted will be opened as follows:—1. Exhibit of specimens clarified by the Spalteholz method, by Professor Spalteholz, Berlin. 2. A method of staining fresh tissues by polychrome methylene blue, by Professor L. B. Wilson, Rochester, Minn. 3. Staining of tissues growing *in vitro*, with lantern slide demonstrations, by Professor R. A. Lambert, New York. 4. Methods of mounting delicate material, by C. F. Silvester, Princeton, N.J. 5. On a method of maceration preparatory to teasing, by Professor G. Carl Huber, Ann Arbor, Mich. 6. On a rapid method of macerating bone, by F. A. Izzard, Cambridge, England. 7. Cement for sealing museum jars, by William Muir and E. L. Judah, McGill University, Montreal. 8. Cement for sealing rectangular museum jars, by William Coburn, Pittsburg, Pa.

Thursday, August 7th: The following papers and demonstrations on Museum Technique, drawn chiefly from the Section of Museum Technique of the Museum of the International Congress of Medicine, will be presented:—1. A new rapid method for staining myelin sheaths and axis-cylinders simultaneously, adopted for celloidin, paraffin, and frozen sections, with slides and lumière photographs, by Georgine Luden van Heumen, Munich. 2. On the staining of cells and axis-cylinders in brain material fixed in bichromic salts, and on Liesogang's method of mounting microscopic sections in gelatin, by C. U. Ariens Kappers, Amsterdam. 3. A simple and selective method for staining neurofibrils and axis-cylinders, by Dr. Rene Sand, University of Brussels. 4. Demonstration of types of museum preparations illustrating methods of preparing and mounting specimens for exhibition purposes, by C. F. Silvester, Princeton, N.J. 5. Injection of blood and lymph vessels of young trout embryos from the time of first appearance to the time of hatching, by C. F. Silvester, Princeton, N.J. 6. Exhibit of single bacterial colonies in sealed Petri dishes as museum preparations, by A. A. Bruère, Montreal. 7. Series of museum jars graded to fit anatomical sizes of organs, by E. L. Judah, Montreal. 8. An inexpensive and effective way of mounting brain and other sections which it is desirable to view flat in the preservative mixture, by Dr. Braxton Hicks, London. 9. Glass construction models of brain, by Adolph Meyer, Baltimore. 10. Specimens from infectious diseases, natural colours preserved, some over 20 years old, illustrating important points, as relations of various types of tuberculosis, &c., by Professor Sheridan Delépine, Manchester. 11. Museum specimens.

EXHIBITION OF MEDICAL APPLIANCES.

A comprehensive exhibition of medical appliances, appealing exclusively to the medical profession, will be held in the large hall of the University of London, in connexion with the Congress.

The meetings of the Universal Esperanto Medical Association will take place in the Geological Laboratory, Royal School of Mines, South Kensington. At the first meeting, which will be held on Friday, August 8th, at 11 A.M., short lectures on Esperanto and the Medical Profession will be delivered in English, French, German, Russian, and other languages. Members of the Congress are cordially invited. Another meeting will be held on Monday at the same hour and place, for which an interesting programme of papers on various medical and surgical subjects has been arranged. These will be read and discussed in Esperanto.

ERRATUM.—In the news paragraph on Anæsthetics at the International Medical Congress, on p. 264 of THE LANCET of last week, the President's address should have been 58, New Cavendish-street, London, W., and not 53.

ENTERTAINMENTS.

August 5th: In the evening the State dinner of the Government to members of the Congress will take place at the Hotel Cecil. The Editor of THE LANCET is entertaining at luncheon the members of the International Association of the Medical Press. On the same evening visitors of German nationality will be received by the German Athenæum.

August 6th: The soirée of the Congress takes place at the Natural History Museum.

August 7th: Visits have been arranged to the Middlesex, Bridewell, and Bethlem Hospitals. There is a luncheon by invitation at the Royal Free Hospital. Sir Alfred Pearce Gould, Dean of the Faculty of Medicine of the University of London, and Lady Pearce Gould give a garden party at the College, Regent's Park. After a dinner given by the Society of Apothecaries at their hall, members are invited by ticket to four soirées at the Royal College of Surgeons of England, the Royal Society of Medicine, the Royal Army Medical College (Millbank), and the hall of the Grocers' Company, E.C. The Medical Director-General of the Navy, Surgeon-General May, is at home to Sections XX. and XXI. at Greenwich between 3.30 and 6 P.M., the Ophthalmological and Psychiatric Sections hold dinners, and the president of the Otological Section, Mr. Arthur Cheatle, gives a soirée at the Botanical Gardens.

August 8th: There is a small luncheon at St. Bartholomew's Hospital, and garden parties are given by the hospital and St. Thomas's Hospital. In the evening the Corporation of London give a conversazione at the Guildhall. Mr. D'Arcy Power conducts a party from the Surgical Section to the Barbers' Hall. This section holds a garden party at the Botanical Gardens, Regent's Park, in the afternoon. In the evening are held the dinners of the Medical, Neurological, Radiological, Stomatological, Therapeutic, and Hygienic Sections. Receptions are given by Dr. Dundas Grant and Mr. H. Tilley, and by Mr. and Mrs. H. J. Waring.

August 9th: On Saturday is the Windsor Castle garden party, and there are excursions to Brighton, Cambridge, the Cripples' Home at Alton, and Claybury Asylum. Garden

parties are given by the Section of Physiology and the President of the Stomatological Section. In the evening the members of the Obstetric and Gynæcological Section dine together.

August 10th: Mr. Waldorf Astor gives a garden party at Cliveden, and visits will be made to the gardens of the Zoological Society, London, and Harrogate and Oxford. River parties are given by the Physiological Section and by Sir Watson Cheyne and Lady Cheyne to the Surgical Section.

August 11th: There are garden parties given by Guy's Hospital, University College Hospital, and Sir William Lever. There is a Masonic meeting, and a second visit will be paid to the Middlesex Hospital. An excursion to Stratford-on-Avon has been arranged. In the evening Sir Thomas Barlow, president of the Congress, gives a dinner at the Savoy Hotel, and the Royal Army Medical Corps dinner is held. There is an evening reception by Lord Strathcona, and the Dermatological Section holds a soirée at Princes Restaurant.

August 12th: There are excursions to Oxford and Cambridge, a garden party at Greenlands, Henley—host, Hon. W. F. D. Smith, and at Kew Gardens—host, Sir Frederic Eve. The Laryngological and Otological Sections hold their dinner in the evening.

August 13th: Excursions to Bath and Cardiff.

THE LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS.

Criticism of the School Medical Service by the Board of Education.

AN important letter from the Board of Education on the subject of the medical inspection and treatment of London school children was considered by the London County Council on July 29th.

The Board stated that it was glad to learn from the reports of three of its medical officers that, subject to certain qualifications, the actual work of medical inspection was being carried out satisfactorily by an efficient staff of medical officers who seemed to be keenly interested in their work. Further, the organisation of the work of inspection as a whole, particularly the arrangement under which the area was divided into four sections, each under the charge of a divisional medical officer responsible for the supervision of the assistant medical officers in his section, appeared to be satisfactory. A suitable examination was now made of all children entering school. With regard to the routine inspection of the children, the Board understand that the weighing and measuring of the children and the testing of vision were, as a rule, undertaken by the nurses apart from the medical examination, and in some cases on a different occasion, and that this part of the work was not, in fact, adequately supervised by the medical officers. As regards the testing of vision, the Board considered it very desirable that the medical officer should himself examine all cases reported as the result of the preliminary examination by the nurse to be defective, so that he might be in a position to take full responsibility for all cases referred for further examination and treatment, and to estimate with accuracy any changes in visual power at subsequent examinations. It was doubtful whether sufficient attention was given in all cases to the detection and estimation of defective hearing. The Board approved the systematic arrangements made for the re-examination of cases of defect found in the course of medical inspection, and the system for ascertaining whether treatment was or was not obtained for defects discovered in the course of medical inspection.

In certain respects, however, the existing arrangements in regard to following up did not appear to be altogether satisfactory. Although the greater part of the work undertaken by the care organising staff was concerned with the results of medical inspection and treatment, this work was not, in fact, placed under the direct control of the school medical officer. It was essential, if the work of the Council's school medical service was to be carried on with full efficiency, that the whole of the school medical work, including inspection, following up, and treatment, should be placed under the control of the school medical officer. The Council should make rearrangements of its staff to effect this; the Board was only prepared to make grants under the medical treatment regulations in respect of ancillary undertakings "if carried out by the school medical officer or his staff or under his direction or supervision."

In some further observations the Board stated that the medical officers should be cognisant of all cases of children absent from school on medical grounds for more than a specified period, with a view to ensuring that the children returned to school as soon as they were fit to do so, and that they did not return too soon to their own detriment or that of other scholars. It was desirable to establish inspection centres to which cases could be referred by the medical officers from routine medical inspection for more detailed examination. Although recent agreements had provided for the use of treatment centres for purposes of inspection, little use had been made of the treatment centres for this purpose.

It would appear that the centres had been regarded merely as places where children could be examined at the request of the attendance officer, and not also as centres serving a comparatively small area from which the school medical work might radiate, and a continual supervision over individual children, so far as necessary, might be exercised.

With regard to the arrangements for medical treatment, the Board made the following observations:—

1. It appears that in certain cases the arrangements made do not secure that the medical officers of the treatment centres are furnished with sufficient information as to the nature of the defects for which the children are referred to the centres.
2. The Board understand that in certain districts the arrangements made in regard to dental treatment, while providing for the inspection by a dentist of children in the six to eight age group, include a considerable proportion of older children selected by medical officers, thus interfering with the normal development of the scheme of dental treatment on preventive lines. This may be a temporary necessity, but should not be regarded as a permanent arrangement.
3. The arrangements with regard to the treatment of minor ailments do not appear to be altogether satisfactory. The Board understand that in practice a large proportion of the children requiring such treatment do not obtain it, partly owing to the insufficient supply of facilities for treatment and partly owing to the absence of provision for securing the prompt attendance of the children at treatment centres. The Board gather that before a child can be treated for a minor ailment all the detailed procedure required in the more serious cases, including reference to the care committee, is usually gone through. The first essential of any scheme for the treatment of minor ailments is that the children should be enabled to obtain treatment expeditiously.
4. The Council should consider further the existing practice in regard to the treatment of cases of discharging ears. Having regard to the fact that a certain proportion of these cases are of a serious nature, it seems desirable, with a view to ensuring adequate treatment, that facilities should be provided for an examination by an expert aural surgeon where this appears to be necessary.

Finally, the Board of Education asked the Council to consider the possibility of extending the functions of the assistant medical officers. There was a serious danger that unless more variety were introduced into the work of these officers the restriction of their duties, in practice, largely to routine medical inspection, re-examinations, and special examinations, would have an injurious influence on the work generally. At the present time the quality of the Council's staff of whole-time assistant medical officers appeared to be high. It seemed probable, however, that if the existing limitations were maintained, either the enthusiasm of the medical officers for their work would diminish with a resultant loss of efficiency, or there would be a tendency for the medical officers to seek employment in areas where a wider scope for their activities presented itself. With a view to securing greater variety, the Board suggested that in addition to carrying out the work of routine medical inspection in his district, together with re-examinations and special examinations, each assistant medical officer should be entrusted with other kinds of work; for example, the further examination of visual defects, public health work, including investigations of infectious diseases in schools, the medical inspection of children in secondary schools, scholarship candidates, &c., work in connexion with the special schools, research and laboratory work, and some share in the working of the administrative arrangements. The extension of the work of the inspection centres would tend in the same direction. The work of treating minor ailments arose naturally out of the work of the inspection centre, and could most effectively be carried on in intimate conjunction with the work of the inspection centre by the officers responsible for that work. If such an arrangement could be adopted in London, it would not only widen the scope of the assistant medical officers' work, but would tend to remove many of the difficulties which had arisen through the separation of medical inspection from medical treatment.

FOUNDER'S DAY AT EPSOM COLLEGE.

Sir Henry Morris, the treasurer of Epsom College, gave away the chief prizes on July 26th, when a large number of parents of the boys, as well as of old Epsomians and other friends of the College, attended for the celebration of Founder's Day.

The Headmaster reviewed the work of the school during the past year, and gave details of some of the honours which had been gained direct from the school, as well as by old Epsomians, since the previous Founder's Day. He said that 16 boys had passed the matriculation examination of the University of London, and that one boy had taken a classical exhibition direct from the school at Sidney Sussex College, Cambridge. He urged upon parents the importance of endeavouring to prevail upon their sons to make up their minds in good time as to what they intended to do when they left school, though he acknowledged that he would not say that this was an easy thing. He drew attention to the fact that an aeronautical training section had been started at the school, and expressed the opinion that their College was the first in England to establish such a training section. Among the prizes awarded were those given by Lord Rosebery, the President of the College, for modern history and English literature.

After the distribution of the prizes, Sir Henry Morris delivered an address, in which he observed that it was more than 50 years ago since he sat to see some of his fellow students come up to receive their prizes, but he could recall as but of yesterday the pleasures and disappointments of those occasions. The successes of the successful were well deserved; but he would like to remind them that their success that day was but getting one foot upon a rung of the ladder; and that the rung of a ladder was never meant to rest upon, but only to serve as a *point d'appui* whilst the other foot was being raised somewhat higher. He asked them not to dwell too long in the self-complacent contemplation of their successes, but to look forward to the next difficulty they would have to face. And to the unsuccessful competitors he wished to say that he felt a strong undercurrent of sympathy with them, for it had often been his lot to be in the same position as they were. He assured them that there was no harm in getting a few tumbles in early life. One learnt thus that there are many in the world as clever as and cleverer than oneself; that patience, perseverance, and industry are in the long run as serviceable as, or more serviceable than, cleverness; and that by these qualities, though one may not gain the goal quite so quickly or brilliantly, one arrives there safely in the end just the same. The difference between what is called a "poor scholar" and "no scholar at all" is enormous. Knowledge, if sound, is a valuable asset no matter how little there is of it. But in these days the boundaries of knowledge are so wide, and the intensity so deep, that the learning of the most learned living person is but as a single volume, or but as a pamphlet even, to the 28 volumes of the new edition of the "Encyclopædia Britannica." And, moreover, there is something greater than knowledge, which is only a servitor of wisdom. In conclusion, the speaker impressed upon the boys the value of being educated at a large school instead of at their homes or in the little private schools in their towns or villages. After referring to Cardinal Newman's views as to the value of a university, he quoted Sir Benjamin Brodie's assertion, in reference to his own education, that those who have not been to a public school or a university feel when they first go into the world that they have missed much, and have much to learn, which they would have learnt at a public school. A public school life gave boys courage to defend the right and to give and take in their conduct to one another. It engendered chivalry and public spirit; it trained them, moulded them, and enlarged their minds; and laid a sound foundation for a manhood which was to be devoted to public or professional life.

At the conclusion of the proceedings in the big school room the visitors were served with refreshments in the grounds, where there was later a gymnastic display and a parade of the Officers Training Corps. Great interest was taken in the new buildings as well as in the alterations to existing ones, and Old Epsomians especially noted the asphalted quad, with the covered ways all round giving access to various old buildings, as well as to the recently erected Markham Skerritt science block, the new carpenters' shop, the new music block, the new gymnasium, the greatly enlarged box-rooms, the improved common room accommodation for masters, and the up-to-date lavatory department.

ASYLUM REPORTS.

Nottingham City Asylum (*Annual Report for the Year 1912.*)—At this asylum the average number resident for the year was 870. One hundred and fifty-five cases were admitted during the year, this being a very considerable reduction from the 208 cases admitted in the previous year. The average number of admissions per year during the last ten years was 173. The rate of admission of direct cases in proportion to the population of the city has tended to decrease of late years, and the steady rise in the number resident is due to the accumulation of chronic cases. A large proportion of those admitted gave little hope of recovery. Eight were congenital imbeciles, 17 were epileptics, 18 suffered from general paralysis, 10 were senile cases, and 13 had been insane for more than 12 months on admission. Forty-three had had one or more previous attacks of insanity. A large number were in very poor physical condition and required hospital nursing for considerable periods. Among the causes the abuse of alcohol again heads the list with 20 per cent.; next comes mental stress 17 per cent., while hereditary predisposition was found in 16·5 per cent. only. The discharges numbered 75, of whom 57 had recovered, the recovery rate being 38·77 per cent. of the direct admissions. There were 100 deaths, the rate being 11·47 per cent. of the average number resident. The chief causes were general paralysis, 34; other diseases of the brain, 19; tubercular diseases of the lungs, 11; and heart disease, 12.

Glasgow Royal Asylum (*Annual Report for the Year 1912.*)—The total number under treatment at this asylum was 573, and the average number resident 451. The admissions numbered 128, 54 being men and 74 women, an increase of female over male admissions which has been noted during the last ten years. Dr. L. R. Oswald does not advance any explanation of this, but points out that the patients are drawn from the middle classes, and that it is interesting, as possibly pointing to some stress to which women—many of whom earn their livings at the same occupations as men—are now exposed, and which leads to a nervous or mental breakdown. In 34 of those admitted the illness had lasted less than three months, in 48 between three and 12 months, and in the others over a year. In 67 cases there was an inherited tendency to insanity or to one of the allied nervous states. In 15 cases the illness was due to alcoholic intemperance, in 21 to bodily ill-health, in 7 to the adolescent and in 9 to the climacteric period of life. Twenty-seven persons sought treatment voluntarily. Among these the percentage of recovery is higher than amongst certified patients, and this may be attributed to the fact that they come under treatment earlier and that their illness was milder in type. The number of persons discharged was 102, 50 being recovered. The recovery rate was 39 per cent. on the admissions. The deaths numbered 24—a percentage of 5·3 on the average number resident. In 19 cases there were post-mortem examinations.

Barnwood House Hospital for the Insane, near Gloucester (*Annual Report for the Year 1912.*)—The daily average number of patients in residence was 149. There were admitted 30 patients. A neuropathic family history was ascertained in 46·6 of the total admissions. Dr. J. G. Soutar, medical superintendent, points out that there is so little variation in this percentage from year to year that the accuracy of the information is established, although its significance is hidden by misapprehension and misconstruction of the facts disclosed. In considering family histories Dr. Soutar is always impressed by the large number of sound and capable people who come from the same stock as that which furnishes the patients. Twenty-one patients were discharged, and of these 11 were discharged recovered, giving a rate of 36·6 per cent. calculated on the total admissions. The deaths were 8 in number, the rate on the daily average number resident being 5·3 per cent. It is satisfactory to note that it was not found necessary to make use of seclusion or mechanical restraint. Many patients are

treated in bed during certain stages of their illness. For this purpose a numerically large nursing staff has to be maintained to give the patients that individual companionship, guidance, and attention which are such potent influences in calming excitement or in soothing distress. The beneficial effect of continuous attendance on patients has been a very noticeable result following upon the increase in the night nursing staff.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Order in Council of April 1st, 1881, Fleet-Surgeon Octavius William Andrews has been placed on the Retired List at his own request, with permission to assume the rank of Deputy Surgeon-General (dated July 26th, 1913).

The following appointments have been notified:—Fleet-Surgeons: R. D. Jameson to Devonport Dockyard; C. M. Beadnell to the *Achilles;* E. C. Cridland to the *Wildfire*, additional, for Sheerness Dockyard, and Royal Naval Barracks; A. X. Lavertine to the *Monarch;* J. J. Walsh to the *Good Hope;* and M. H. Knapp to the *Dido*. Staff Surgeons: F. Bolster to Chatham Hospital; and B. S. Robson to the *Victory*, additional, for Haslar Hospital. Surgeons: H. D. Drennan to Chatham Hospital; A. V. J. Richardson to the *Pembroke*, additional, for disposal; H. H. Babington to Gibraltar Hospital; D. H. C. Given to the *Indus;* J. P. Shorten to the *Dido;* and R. Connell, G. B. Scott, G. W. M. Custance, C. J. Aveling, F. H. Stephens, R. M. Riggall, J. H. Burdett, and A. V. J. Richardson, all to the *President*, additional, for five months' course of instruction.

ROYAL ARMY MEDICAL CORPS.

Captain Stafford M. Adye-Curran to be Major (dated July 26th, 1913).

Colonel A. E. Tate has been placed under orders for transfer from Lucknow to the Bangalore Brigade of the Southern Army, in succession to Colonel F. H. Treherne. Colonel R. J. Geddes, D.S.O., has taken up duty as Assistant Director of Medical Services to the South Western Coast Defences.

Lieutenant-Colonel H. D. Rowan has been placed under orders for transfer from the Military Hospital at Tidworth, Salisbury Plain, to the Irish Command, and will be appointed to the charge of King George V. Military Hospital at Arbor Hill, Dublin, in succession to Lieutenant-Colonel W. C. Beevor, C.M.G. An exchange on the roster of service abroad has been approved between Brevet-Colonel (Lieutenant-Colonel) C. H. Melville, at present on sick leave from Lucknow Cantonment, and Lieutenant-Colonel J. M. F. Shine, in charge of the Military Hospital at Belfast. Lieutenant-Colonel J. Thomson has been transferred from the London District to the Aldershot Command. Lieutenant-Colonel H. A. Haines has taken up duty as Assistant-Director of Medical Services to the Chatham District. Lieutenant-Colonel G. A. T. Bray, at present holding charge of the Military Hospital at Canterbury, has been placed under orders for a tour of service abroad during the coming trooping season.

Major H. J. M. Buist has been transferred from the Military Hospital at Bloemfontein to Pretoria. Major E. C. Hayes has taken over medical charge at Lodmoor Camp on transfer from Cosham. Major W. S. Harrison has been placed under orders for a tour of service abroad. Major A. J. Chambers has been appointed to hold medical charge at Lichfield City. Major W. A. Ward has taken up duty in the London District. Major J. McD. McCarthy has been transferred from the Military Hospital at Ferozepore Cantonment to Subathu, Simla Hills District, and appointed to hold charge of the Military and Cantonment General Hospitals. Major S. W. Sweetnam has been granted eight months' leave of absence home from India on medical certificate. Major A. H. Waring has taken over medical charge at Wool Camp on transfer from the Military Hospital at Gosport. Major H. F. Shea has arrived home on leave of absence from Ambala Cantonment.

Captain A. M. Pollard has been appointed to the Eastern Command. Captain F. M. Hewson has been granted six months' leave of absence home from India. Captain J. James has taken up duty in the Eastern Command on return home for duty from the Military Hospital at Potchefstroom. Captain J. R. Yourell has arrived home on leave of absence from the Military Hospital at Rangoon. Captain T. J. Wright has taken up duty as Assistant Instructor at the Training School, Royal Army Medical Corps Depôt at Aldershot. Captain F. T. Turner has been granted one year's extension of his tour of service in India. Captain C. S. Parkinson has been appointed to the Scottish Command on arrival home for duty from South Africa. Captain W. F. Tyndale, C.M.G., has taken up duty as Specialist Sanitary Officer to the Plymouth District. Captain D. S. Buist has been transferred from the Military Hospital at Quetta to Egypt for a tour of service. Captain T. B. Nicholls has been appointed to Cyprus on transfer from Egypt. Captain H. W. Farebrother has been appointed to hold collateral charge of the Civil Surgeoncy of the Meiktila District, Upper Burma, during the absence on leave of Captain N. D. Walker. Captain A. Dawson has taken over medical charge of the Glen of Imaal Artillery Practice Camp on transfer from the Military Hospital at the Curragh. Captain J. A. Turnbull has been placed under orders for transfer to the Military Hospital at York for appointment as Recruiting Medical Officer. Captain T. H. Gibbon has been appointed a Specialist in Bacteriology, and will take up duty in the Dublin District, in succession to Captain A. C. H. Gray, under orders for service abroad. Captain J. B. Meldon has been transferred from the Military Hospital at Shorncliffe to Brighton. Captain F. M. M. Ommanney has joined the Dublin District for duty. Captain J. W. Lane has been granted six months' leave of absence home from India. Captain C. F. White has been placed under orders to join the Irish Command for a tour of duty. Captain E. D. Caddell has been appointed to hold charge of the Military Hospital at Aden Cantonment. Captain D. G. Carmichael has been transferred from the Military Hospital at Rawal Pindi Cantonment to Campbellpore. Captain A. S. Arthur has been placed in medical charge of Trawsfynydd Camp on transfer from the Military Hospital at Liverpool. Captain L. Cotterill, Company Officer at the Royal Army Medical Corps Depôt, Aldershot, has been placed under orders for a tour of service abroad. Captain T. C. C. Leslie has been appointed to the Cork District. Captain J. W. L. Scott has been placed in medical charge at Durrington Camp, Salisbury Plain, on transfer from the Royal Victoria Hospital, Netley. The following Captains have been selected to attend the promotion course to the rank of Major at the Royal Army Medical College: T. B. Moriarty, V. C. Honeybourne, J. James, and R. E. U. Newman. Captain R. G. S. Gregg has taken up duty as Specialist in the Prevention of Disease and in charge of the Bacteriological Research Laboratory at Brigade Headquarters, Karachi Cantonment.

Lieutenant J. S. Levack, on arrival in India from the Military Hospital at Bradford, has been appointed to Rawal Pindi Cantonment to undergo a course of instruction in Indian sanitation and hygiene. Lieutenant E. G. S. Cane has taken up duty at the Military Hospital, Poona. Lieutenant W. Bissett has been transferred from the Military Hospital at Lahore to Ambala Cantonment. Lieutenant H. N. Sealy has been directed to join the Irish Command for duty, and on arrival will be appointed to the Dublin District. Lieutenant F. A. Robinson has left the Military Hospital, Curragh Camp, for a tour of service in India. Lieutenant W. Stewart, at present serving at the Military Hospital, Colchester, has been placed under orders to join a clearing hospital to be mobilised for medical manœuvres at Aldershot. Lieutenant L. F. K. Way has joined the Military Hospital at Bloemfontein for duty. Lieutenant E. C. Deane has been appointed to hold charge of the Military Hospital at Carlisle.

INDIAN MEDICAL SERVICE.

Colonel R. W. S. Lyons, Inspector-General of Civil Hospitals in the Central Provinces, has arrived home on eight months' combined leave of absence.

Lieutenant-Colonel H. B. Melville, chief plague medical officer in the United Provinces of Agra and Oudh, has been appointed Civil Surgeon at Benares, in succession to Lieutenant-Colonel J. M. Crawford, granted leave of absence. Lieutenant-Colonel J. Crimmin, V.C., has been appointed Presidency Surgeon of the Third District in Bombay City and placed in medical charge of the Common Prison, House of Correction, and Byculla Schools.

Major J. N. Walker, civil surgeon at Rae Bareli, has been transferred to Aligarh. Major Jay Gould has taken up duty at Simla as Assistant Director-General. Major A. Fenton has taken up duty as Officiating Superintendent of the Lunatic Asylum at Rangoon, in succession to Major W. H. Cox, D.S.O., granted leave. Major W. Lapsley has taken up duty at Bahraich. Major C. Y. C. Hunter has been granted three months' extension of leave of absence home from India on medical certificate. Major C. A. Sprawson has been appointed Professor of Medicine on the Staff of King George V. Medical College at Lucknow. Major A. W. Tuke has been granted combined leave of absence home from India for nine months.

Captain A. W. Howlett has been appointed to officiate as Superintendent of the Central Prison at Bareilly. Captain B. Higham has been appointed to officiate as Chemical Analyst to the Government of Bombay and Professor of Chemistry at the Grant Medical College, Bombay, during the absence on deputation of Major W. H. Dickinson. Captain T. S. B. Williams has been appointed to officiate as Agency Surgeon in the Eastern States of Rajputana. Captain F. P. Connor has been granted an extension of leave of absence home from India. Captain R. A. Lloyd has been appointed to officiate as a Civil Surgeon of the Second Class and has been transferred to the Bilaspur District. Captain W. E. Brierley has been appointed a Specialist in Advanced Operative Surgery. The services of Captain J. H. Horton, D.S.O., have been placed temporarily at the disposal of the Government of Bombay for employment in the Civil Medical Department. Captain J. L. Lunham, civil surgeon at Karwar, has been granted leave of absence home from India. Captain J. G. B. Shand has been appointed to the substantive medical charge of the 40th Regiment of Pathans, stationed at Alipore, in succession to Major W. H. Ogilvie.

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd Northern General Hospital, Royal Army Medical Corps: Captain George H. Pooley, from the list of officers whose services are available on mobilisation, to be Captain in the permanent personnel (dated July 30th, 1913).

Attached to Units other than Medical Units.—Captain Hugh Dickie resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform (dated July 26th, 1913). Captain George R. Livingston to be Major (dated May 26th, 1913).

For attachment to Units other than Medical Units.—To be Lieutenant: James Alexander Stenhouse (dated June 9th, 1913), William Jenkyns Cruickshank (dated May 30th, 1913), and George Basil Henley Jones (dated June 5th, 1913).

INDIAN MEDICAL SERVICE EXAMINATION.

The competitive examination for commissions in His Majesty's Indian Medical Service was held on July 21st, 22nd, 23rd, 24th, 25th, and 26th, for which 22 candidates presented themselves. Sixteen candidates qualified, and six failed to qualify. The following is a list of the candidates who secured the 12 vacancies which were to be competed for, with their medical schools, qualifications, and marks obtained out of an aggregate of 5100:—

	Marks.
Sahib Singh Sokhey, M.A., B.Sc., M.B., Ch.B. Edin., Edinburgh University	3517
Atul Krishna Sinha, M.B. Calcutta, L.R.C.P., M.R.C.S., D.T.M. & H. Camb., Calcutta University and London Hospital	3392
Subramanya Doraisamy, L.R.C.P., M.R.C.S., Madras University and Middlesex Hospital	3198
James Findlay, M.A., M.B., Ch.B. Glasg., Glasgow University	3167
Allan Seddon, M.B., Ch.B. Liverp., Liverpool University and London Hospital	3146
Jyotish Chandra De, M.B. Calcutta, L.R.C.P., M.R.C.S., Calcutta University and London Hospital	3072
William Collis Spackman, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital	3061
Nanalal Maganlal Mehta, L.M. & S. Bombay, L.R.C.P., M.R.C.S., London Hospital	3039
Charles Harry Powell Allen, L.R.C.P., M.R.C.S., Madras University and University College Hospital	2957
Peregrine Stephen Brackenbury Langton, L.R.C.P., M.R.C.S., Middlesex Hospital	2943
Robert Morrison Easton, M.A., M.B., Ch.B. Aberd., Aberdeen University	2893
Reginald Victor Martin, L.S.A., L.R.C.P., M.R.C.S., St. Mary's Hospital	2878

DEATHS IN THE SERVICES.

Major John Herbert Rivers, late R.A.M.C., on July 18th, at The Grange, Fleet, Hants, in his 44th year. He entered the service in 1893, becoming captain in 1896, major in 1904, and retired in 1911. He took part in the operations against the Nyam-Nyam tribes in the Bahr-el-Ghazal Province in 1905.—Major J. C. R. Robinson, attached to the 1st East Anglia Brigade of the Royal Field Artillery, was thrown from his horse at Lydd Camp during the Territorial training on July 28th, receiving severe injuries to the head. He died shortly after admission to the Military Station Hospital, and at the inquest, which was held on the following day, a verdict of "Accidental death" was returned by the jury.

THE ANTARCTIC MEDAL.

His Majesty the King has approved of the Polar medal with clasp inscribed "Antarctic, 1910–1913," being granted to Surgeon E. A. Wilson (deceased), and clasp only to Surgeon G. M. Levick, R.N., and Surgeon E. L. Atkinson, R.N., members of the British Antarctic Expedition, 1910–13. The medal and clasp are in silver. The silver clasp alone is awarded to those who already possess the silver Polar medal.

THE HEALTH OF THE JAPANESE NAVY.

The report for the year 1910 by Surgeon-General S. Kimura, chief of the Bureau of Medical Affairs, to Admiral Baron Saito, Minister of the Japanese Navy, has just been issued, and shows that the state of the Navy for that year may be considered satisfactory. The number of patients suffering from disease or injury marked an increase as compared with the preceding year, but the number of days of sickness exhibited a remarkable decrease when compared with the preceding year. The mean daily force of the service was 44,323 persons, a decrease of 507 as compared with 1909. The total number of old and new cases of disease or injury entered on the sick list was 31,551, or an increase of 848 over the preceding year. The number of cases recovered was 27,210, while the deaths numbered 170, a decrease of 10 cases when compared with 1909. The number of men invalided from the service was 729. Under the heading of venereal diseases 5710 cases were reported, the ratio being 128·83 per 1000 of force, or a decrease of 10·92 per 1000 as compared with 1909. Analysed the figures are as follows:—Gonorrhœa and its sequels, 2374; soft chancre, 1189; secondary and tertiary syphilis, 1173; bubo, 658; and hard chancre, 316. The total number of cadets, petty officers, and men vaccinated was 12,808, showing a ratio of 288·97 per 1000 of mean force. The ratio of success was 23·21 per cent., and that of non-success 76·79 per cent., owing to the fact that most of them had been vaccinated several times.

THE MILITARY HOSPITAL, DEVONPORT.

About 50 members of the 4th Southern General Hospital R.A.M.C. (Territorial Forces), are undergoing their annual training at this hospital. Lieutenant J. J. S. Scrase is in command.

BULLETIN OF THE NAVAL MEDICAL ASSOCIATION OF JAPAN.

No. 4 of this Bulletin, which is published by the Naval Department at Tokio, contains original articles in the Japanese language, with brief abstracts in English by Fleet-Surgeons I. Yoshikawa, R. Amenomiya, K. Watanabe, Staff-Surgeons R. Takamiya, Y. Nogami, Surgeon Inspector Y. Suzuki, and Surgeons S. Ando, K. Kuroiwa, K. Kamo, T. Kabeshima, and K. Fukushima. In the article by Staff-Surgeon Y. Nogami on Some Experience with Salvarsan Treatment the author admits the markedly favourable effect of this drug on syphilitic affections, even on those cases for which mercury and iodine had failed, as proved by numerous observers; but he adds that for permanent cure of the disease a good deal of patience is wanted on the part both of the medical men and of the patients to repeat the administration of the drug in addition to mercury and iodine as hitherto employed. He regrets that costliness of the drug prevents its more extended use in consideration of the wide distribution of the disease among all classes of the community.

DONATIONS AND BEQUESTS.—An anonymous gift of £1000 has been made to the Hospital for Epilepsy and Paralysis, Maida Vale, for the building fund.—Mr. D. S. Davies has presented to the Welsh National Memorial Association a piece of land, valued at £5000, as a site for a consumptive sanatorium.—The late Mr. Samuel Joshua Cooper, of Mount Vernon, Barnsley, has left by will £2000 to Beckett Hospital, Barnsley.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Outbreak of Small-pox.

THERE has been an outbreak of small-pox at Irlams-o-th'-Height. The first case notified was that of a man employed in a local works. Three other cases, all colliers, were subsequently notified. The medical officer of Salford, Mr. C. H. Tattersall, is taking stringent precautions with a view to prevent the spread of the infection.

Murky Manchester.

At last an attempt on scientific lines is about to be made to obtain more sunshine for the city. London has 50 per cent. more sunshine than the city of the Irwell. The town council, through its sanitary committee, has appointed an air pollution advisory committee—the first of its kind in England. The committee will have representatives of all interested in the smoke and dust problem, for it is recognised that air pollution is caused not only by the smoke from manufacturing chimneys, but that not unimportant factors are the dust from the streets and the smoke from domestic chimneys. The committee is divided into five sections—viz., chemical, engineering, statistical, legal, and administrative. £150 is allotted in this year's estimates of the sanitary committee—a very modest sum indeed for the attempt to solve so vast and complex a problem.

A Daisy Day for Ancoats Hospital.

The Ancoats Hospital, which does a large amount of beneficent work, finds itself in need of money for future activities. To this end, a novel procedure has been adopted. On Friday and Saturday of last week about 1000 voluntary helpers diffused themselves over the city, selling on behalf of the hospital dainty white and yellow daisies. Over 100,000 daisies made by crippled children were sold at a penny and twopence. It is gratifying that a good many silver coins found their way into the collecting boxes. On Saturday there was an interesting procession and fancy dress parade through the city. It is hoped that £1000 will be realised to help to reduce the debt of £8000 with which the hospital is burdened. Greater Ancoats made a great and successful effort, and it is hoped that "Daisy Day" will become an annual institution. Specially noteworthy was the large number of nursing and ambulance societies in which women and girls take a prominent part.

Plague of Gnats at Matlock and on the Derwent.

On Saturday night, July 26th, Matlock was invaded by innumerable hosts of gnats. From Matlock to Cromford, for three miles along the River Derwent, there were thousands of columns of gnats to the mile. Some of the columns extended as high as the summit of the High Tor.

July 28th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENT.)

Tuberculosis in Cardiff.

THE death-rate from phthisis in Cardiff has varied very little during the past 17 years. In 1896 it was 1·38 per 1000 and in 1912 it was 1·32 per 1000. In the intervening years the rate has not been appreciably higher or lower. In different parts of the city there has always been a varying incidence of the disease. In the Roath ward in 1912 the phthisis death-rate was only 0·83 per 1000, while in the central ward it was as high as 2·64 per 1000. With the coming into force of more complete notification of cases of tuberculosis it has been possible to adopt further administrative measures with respect to the disease. Three health visitors are employed in domiciliary visits; infected houses and articles are disinfected after a death or change of residence; sputum flasks are supplied free of charge; the by-law against spitting in public places has been enforced; and medical practitioners can obtain the free bacteriological examination of sputum. The local education authority has not yet provided an open-air school, but the question is being considered. Dr. E. Walford, in his annual report, deals at some length with the arrangements that are being made between the National Insurance Commissioners and the National Welsh Memorial with regard to the administration of the sanatorium benefit under the National Insurance Act. County councils are empowered to pay half the excess cost of extending sanatorium benefit to the dependents of insured persons, the other half being borne by the Treasury. In Wales this Treasury grant, together with the contributions made from the local rates, is being paid to the Memorial Association, who will administer the entire sum. Dr. Walford considers this arrangement an improper one, as likely to encourage a feeling among members of corporations and county councils that, having transferred their responsibilities as guardians of the public health to an outside body, no further efforts are required on their part. Preventive measures, he says, should certainly take the first place in any comprehensive scheme against tuberculosis, and local authorities are the bodies upon which has been conferred the duty of carrying out those measures, and they alone have statutory powers for improving the conditions under which tuberculous persons live.

The Construction of Working-class Dwellings.

At a meeting of the West of England and South Wales branch of the Society of Medical Officers of Health held at Weston-super-Mare recently there was a discussion upon the standard of sanitary requirements for houses of the working-classes. Dr. W. G. Savage, in opening the discussion, drew attention to the latest memorandum of the Local Government Board with respect to the provision and arrangement of houses for the working-classes. He did not agree with the Board that in rural districts an acre of land should accommodate ten houses, and pointed out that a little extra land would have an inappreciable effect upon the rental to be charged. He advocated the provision of three bedrooms, and spoke of the advantages of having them all unequal in size, but considered that the 81 square feet of floor space in one of the bedrooms in the official plans was far too little. He urged that the main objection to concrete houses was that the walls were non-pervious, and would consequently be damp. Dr. A. Duncan said that the experience at Merthyr, where five concrete houses were in course of erection, was that this material was no cheaper than brick. It was hoped to build five such houses at a total cost of £500, but already they had cost £740 exclusive of land. Each house had only two bedrooms, and no bath was provided. Dr. H. J. Alford said that the Taunton corporation were erecting houses in blocks of four built of brick with tiled roofs at a cost, exclusive of land, of £140 each house. The accommodation included a kitchen and scullery on the ground floor and three bedrooms, two of which contained 720 cubic feet of air space each, and the third 650 cubic feet. A tip-up bath was provided in each kitchen. Mr. J. Tubb Thomas thought that if an air space were provided between the concrete walls of a building there would not be any dampness, and he considered the cost would be about 15 per cent. below that of brick dwellings. He advocated the provision of spray or shower baths rather than reclining baths, as with the latter there was a difficulty in getting rid of the waste water. Mr. George Neale stated that in the Barry Bill now before Parliament a clause provided that in every house in the town there should be a place for food so constructed as to be satisfactory to the urban district council.

Cardiff Infant Consultations.

The "consultation for infants," which was established in Cardiff on the advice of the medical officer of health, Dr. Walford, about five years ago, is continuing to do good work. The consultation, which is under the supervision of Dr. Elizabeth F. Elder, in the department of the medical officer of health, is open every Tuesday afternoon in a room in the city hall. Mothers bring their children and receive advice and instruction in the feeding and rearing of the infants. Each child is weighed and a record kept. No actual treatment of sick children is undertaken; where necessary the mother is referred to her own doctor, the object being to instruct the mother how best she may manage herself and her child during the early years of its life. The treatment is therefore preventive, and consists in the application of the well-recognised principles of domestic hygiene. Referring to the consultations in his annual report, Dr. Walford states that with suitable food and clothing, and with scrupulous home cleanliness and plenty of fresh air, most of the infants who attend thrive admirably

without any of the soothing remedies so frequently applied by ignorant parents and over-officious female friends. The average number of children attending the weekly consultation in 1912 was 75, and altogether 1034 individual children attended during the year. Of this number, 29 died under 1 year of age and 7 between 1 and 2 years old. The infant mortality rate in Cardiff in 1912 was 110 per 1000 births, and varied in different parts of the city from 60 per 1000 in the Park ward to 199 in the Central ward. The total births during 1912 numbered 4597, and visits were paid by the health visitors to no less than 3935 infants. That the teaching of health visitors and others during the past years is beginning to bear fruit is shown from the fact that 84 per cent. of the children visited were breast-fed.

July 29th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Increase in Cases of Cancer in Edinburgh.

FROM the annual report of the medical officer of health of the city of Edinburgh it appears that for a number of years there has been no diminution in the number of recorded cases of cancer—indeed, the tendency is in the other direction, though fortunately the increase is small. In the city for years past the mortality from cancer has been almost precisely the same as from phthisis, and a striking similarity in the figures applicable to these two diseases is apparent.

	Cancer.	Phthisis.
1910	387	389
1911	405	392
1912	400	406

Dr. Williamson has little doubt that in the near future the local authority will have to pay more attention to sufferers from cancer than it has hitherto done. He thinks there is an urgent need for special hospital accommodation for them, and if such were provided the question of making the disease a notifiable one ought not to remain in doubt.

Reduction of Infant Mortality.

Special efforts have been made during the past year as regards this. A common average rate a few years ago was between 140 and 150 per 1000. In 1911 this figure fell to the satisfactory one of 115, and during the year under report it has reached the second lowest figure which has yet been attained in the city—viz., 110 per 1000. Enormous variations are found to exist in this rate of mortality according to the housing conditions present. Thus in Merchiston ward, the rate is only 46 per 1000, while in St. Giles it reaches 155 per 1000. In the Cowgate and adjacent closes the figure mounts up to the high rate of 277 per 1000. In these low localities the houses largely consist of one and two rooms.

Tuberculosis in Edinburgh.

The medical officer of health is strongly of opinion that full advantage should be taken of Colinton Mains Hospital for the treatment of tuberculosis, not only in its late, but also in the very early stages of the disease. The figures for phthisis seem at first sight startling. In 1907 there were 651 cases notified, and each year has shown an increase, until in 1912 the number had increased to 1255 cases. Instead of showing an increase, however, the actual fact is that an ever-increasing care has been taken in the diagnosis of such cases, and particularly in the early stage of the disease, cases which in former years would have passed unnoticed. It follows that the authorities are now put in a much better position than formerly of exercising the preventive measures which are so important. The same relationship is shown here with regard to room density. In the better class wards of the city the notification of phthisis varies from 1·3 to 1·9 per 1000, while in districts with large tenements containing one and two-roomed houses it runs up to 4·5, and even to 7·4 per 1000 in St. Giles Ward.

Declining Birth-rate.

The following figures show a steadily diminishing birth-rate in the city of Edinburgh. In 1903 the rate was 25·49; in 1906 it was 23·96; in 1909 it was 23·13; while in 1912 it had fallen to 20·81.

Post-Graduate Classes at Royal Infirmary, Glasgow.

During the autumn a series of post-graduate classes will be held at the Royal Infirmary, Glasgow, the various members of the staff giving demonstrations in the morning and afternoon in their particular subjects. The fee for attendance and hours can be ascertained from Dr. J. Maxtone Thom, who will supply any further information, and who is requesting early communications from those likely to attend the classes.

Appointment of Tuberculosis Officer for Aberdeenshire.

At a meeting of the county council for Aberdeenshire held on July 25th, Dr. Farquhar Macrae was appointed tuberculosis officer for Aberdeenshire at a salary of £500 a year, with travelling expenses. Dr. Macrae will have charge of the tuberculosis dispensary or dispensaries to be established for the county; be responsible for the general arrangements for the treatment of patients otherwise than in a sanatorium; act as adviser to the County Insurance Committee in all applications made to them for sanatorium benefit and treatment; report to the Insurance Committee at such times as may be arranged regarding the condition of all insured persons who are receiving sanatorium treatment in a sanatorium or hospital; confer with the local medical practitioners giving domiciliary treatment to insured persons or their dependents, and report from time to time upon such cases to the Insurance Committee; and attend, when requested to do so, the meetings of the Insurance Committee and its Sanatorium Benefit Subcommittee, in order to advise the Committee regarding all questions of sanatorium benefit or treatment of insured persons. The post is indeed no sinecure.

July 29th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Report of the Registrar-General for Ireland.

THE annual report of the Registrar-General for Ireland for 1912 records: (*a*) an increase in the population—1102; (*b*) the lowest annual death-rate recorded since 1871—viz., 16·46 per 1000; (*c*) the lowest death-rate from tuberculosis on record—viz., 2·15 per 1000; (*d*) a decrease in infant mortality from 94 per 1000 births in 1911 to 86 per 1000 in 1912. This is the lowest infant mortality recorded in Ireland. The birth-rate for the year was 23 per 1000 of the population, being 0·3 over the average rate for the preceding 10 years. The tuberculosis death-rate has fallen steadily since 1904, but tuberculosis ranks as second among the causes of death, the first being old age. The number of emigrants who left Ireland in 1912 was 29,344, of whom a little more than half were males. The greatest emigration was from Ulster.

Lunacy in Ireland.

The annual report of the Inspectors of Lunatics for Ireland for 1912 shows an increase of 184 in the number of lunatics under care during the year. This increase is 118 less than the average increase for the preceding ten years. The Census in 1911 showed that about 14 per cent. of the total number of lunatics and idiots were not under care. In 1911 one person in every 154 of the population was a lunatic or an idiot.

Vaccination in 1911.

Of the total number of children born in 1911, 72·6 have been reported by the Registrar-General as successfully vaccinated and 13·6 as defaulters. The percentage of successful vaccinations was lowest in the province of Leinster and highest in Ulster. In the south-eastern corner of Ireland, notably in the counties of Wexford and Carlow, there has been an organised antivaccination movement, and in several unions the guardians have refused to prosecute, apparently without protest from the Local Government Board.

The Medical Profession, the Insurance Commissioners, and the Medical Advisers.

The appointment of 44 additional medical advisers by the National Insurance Commissioners has led the medical

secretary of the new Irish Medical Committee to send to all the new appointees a copy of the resolution passed at a meeting of medical delegates on June 17th, to the effect that if the Commissioners persisted in appointing medical advisers for the purpose of certification and refused to withdraw those already appointed, the entire medical profession would refuse to work the sanatorium benefits of the Act. As 18 of the newly appointed advisers had signed the "undertaking" not to enter individually into any arrangements with an Insurance Committee, Approved Society, or any other persons under the National Insurance Act, a copy of the pledge signed by them was attached in their cases. Meetings of medical men have been summoned in those areas where advisers have been appointed to decide on a line of action. The National Insurance Commissioners replied on July 24th to the resolution above referred to of June 17th to the effect that they had no intention of departing from the policy they had adopted, and would throw "the entire responsibility of impeding the great efforts being made throughout Ireland to combat tuberculosis" on the medical profession should it attempt to carry out its expressed determination.

The Water-supply of Derry.

At a quarterly meeting of the Derry corporation held on July 21st a very serious report was read from the chairman of the water committee, the town clerk, and the water superintendent. The population of the city is 41,000, and from the present catchment areas there are available 1,500,000 gallons per day, which gives 37 gallons per head per day. During 1912 the average consumption of water was 41¼ gallons per head per day, and it is estimated that the minimum requirements of the city cannot be provided for with less than 40 gallons per head per day. So, without any increase in the population, the city supply of Derry is short for the actual needs of the citizens by 3 gallons per day, and no provision from the present works can be made to meet this shortage. Should the population increase—and this is quite possible if resumption of work at the shipyard should take place—or should there be a shortage in the rainfall, an acute crisis would arise. In the face of this report—which it was decided to print and circulate amongst the members of the city council—it is clear that the corporation of Derry will have a big job to face, and the sooner the matter is considered and settled the better.

Pauperism in Belfast.

The outdoor relief committee reported, at a meeting of the Belfast board of guardians held on July 22nd, that during the previous week there had been no applications for outdoor relief, which is a remarkable record in a city like Belfast, with a population, according to the Census of 1911, of 385,492. It also appears by the returns in the *Board of Trade Labour Gazette* that Belfast has shared with Bradford the lowest rate of pauperism per 10,000 of the population in the United Kingdom. The general average for the United Kingdom is 185 per 10,000; for the five London districts it is 221; for England (exclusive of London) it is 160; for Scotland 215; while in Belfast the figure is only 101. In Dublin the rate is 278 per 10,000 (nearly three times that of Belfast), while for Cork, Waterford, and Limerick the figure is 312. With the exception of the central and eastern districts of London, where aliens abound, Dublin and Cork have the highest pauperism rates of the 35 districts in the United Kingdom. In Glasgow district the rate is 238, in Aberdeen 195, in Edinburgh 164, and in Dundee 156 per 10,000 of the population. In Manchester the rate is 172, in Cardiff and Swansea 198, in Bristol 186, in Wolverhampton 183, in Leicester 196, in Hull 236, in Newcastle 155, and in Stockton-on-Tees 185.

Belfast Hospital for Diseases of the Skin.

At the annual meeting of the Belfast Hospital for Diseases of the Skin held on July 26th it was reported that 874 patients had been treated during the year, and that financially there was a balance in hand of £174. A quartz mercury vapour lamp, designed by Professor Kromayer, has been provided as an auxiliary to the Finsen light treatment, and has given excellent results in some cases of lupus and chronic eczema. The lamp gives a large quantity of ultra-violet rays, whilst the current consumed by it is only about 4 ampères.

July 29th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Public Health in Prussia.

THE annual report of the Government Medical Department on the state of the public health in Prussia during the year 1911 has just been issued. As reproduced in the *Sachverständigen Zeitung*, it states that the number of births has again decreased, as there were in that year 31,522 births fewer than in the preceding one, the birth-rate being 29·36 per 1000 of the population. The birth-rates per 1000 for several preceding years were as follows: 40·90 for 1876, 36·52 for 1901, 35·04 for 1904, 33·23 for 1907, 32·99 for 1908, 32·00 for 1909, 30·83 for 1910, and 29·36 for 1911. The number of stillborn children has considerably decreased, and under this heading the males show a greater decrease than the females. Among the population of Prussia, which is recorded as 40,500,283, the general death-rate was 17·21 per 1000, one-third of the deceased being children in the first year of life. The third quarter of the year, when the weather was extremely hot, showed a great increase of infant mortality. The cause of deaths of infants were especially diseases of the intestinal canal. Owing to the high mortality in the summer season the increase of the general population was only 492,363, against 581,465 in 1910. The hot summer also favoured the development of infectious diseases, for diphtheria, puerperal fever, trachoma, dysentery, scarlet fever, enteric fever, tuberculosis, and ptomaine poisoning showed a considerable increase. In 12 of the existing 37 Government districts enteric fever was prevalent. Diseases of the respiratory organs showed, on the other hand, a decrease. In the 36 bacteriological public laboratories 266,076 examinations were made. The number of registered disinfectors was 3366; the increase was 407, of whom 88 were at the same time registered nurses. With regard to venereal diseases, the report states that 54,975 persons were treated in hospitals, being 13·9 for each 10,000 of the population, against 12·2 in the preceding year. Nosologically 41·6 per cent. of the cases were recognised as gonorrhœa, 8·37 per cent. as soft chancre, and 50·02 per cent. as syphilis. The number of tuberculous patients could not be ascertained, as the only cases notified are those which have resulted fatally. The deaths from tuberculosis have, however, decreased, their number being only 15·12 for each 10,000 of the population, whilst the corresponding numbers for some previous years were 15·29 for 1910, 21·13 for 1900, and 28·35 for 1890. The city of Berlin, where 20 deaths from tuberculosis per 10,000 of the population were registered, had the highest death-rate from this cause, whilst the district of Allenstein in East Prussia had the lowest number—namely, 7·9 per 10,000. The endeavours to prevent tuberculosis have been extended by the establishment of dispensaries, day sanatoriums, and hospitals. In connexion with the inspection of food good work has been done. Concerning cattle, the report states that of 4,633,720 cattle no fewer than 508,889 were found to be tuberculous, being 10·98 per cent. of the whole, and that of the pigs 2·5 per cent. were tuberculous. The examination of sausages showed much adulteration, and a number of dealers were prosecuted in consequence, but the report complains that in the law courts persons found guilty of offences against the adulteration laws are only punished with trifling fines which the offenders can easily cover by raising the price of the article. Deaths from alcoholism showed an increase, 948 persons dying from this cause, of whom 12·5 per cent. were women; 34 of the deceased were under the age of 30 years. The anti-alcoholic movement makes only slow progress in the rural districts, but in the cities the distribution of pamphlets and the holding of exhibitions and temperance meetings have done a good deal in restraining the abuse of spirits. The number of homes for inebriates is said to be much too small. It is also remarked that licences for the sale of spirits are still granted too freely and that there ought to be a greater number of temperance restaurants. The abuse of tobacco shows, on the other hand, an enormous increase, especially in the form of cigarette-smoking by females and young persons. The number of medical men in Prussia has increased from 19,671 to 19,956, so that there is on an average one medical man for each 2029 of the population. The district of Karthaus,

in West Prussia, where there is one medical man to 17,500 inhabitants, had the smallest number, whilst Berlin had the highest proportionate number of practitioners with one for every 882 inhabitants. The courts of honour had to deal with 849 cases, in 355 of which no trial took place, whilst in 34 the defendant was acquitted. The number of dental surgeons was 2101 and that of mechanical dentists was 4751. The number of nurses could not be ascertained because there is no compulsory registration for them. There were 21,161 registered midwives, being one for each 1914 of the population. The report gives the number of persons practising medicine without legal qualification as 4631, so that there were 23·21 unqualified practitioners for each 100 duly qualified medical men. In three of the Government districts—namely, in Frankfort, Magdeburg, and Liegnitz—there were more unqualified than qualified medical men. The number of pharmacies was 3562, as compared with 3511 in the preceding year, being one pharmacy for each 10,846 of the population.

Health of Girls Attending College.

Frau Stelzner, medical officer to the girls' municipal colleges of the city of Charlottenburg, lately read a paper on observations which she had made in the course of her work. She compared the condition of the girls attending college, who of course belonged to well-to-do classes, with that of girls in the municipal general schools, and said that the college girls often came to school in a state of exhaustion caused by insufficient sleep because they had been allowed to sit up late at society gatherings. They accordingly woke up very late and had no time for breakfast, so that they came hungry to their lessons. In summer time she found that anæmia was often aggravated owing to prolonged cold bathing. Among 2300 girls examined by her there were 1400 to whose parents the state of health of the children had to be notified, and in 90 per cent. of these cases medical treatment was begun. The examination of girls commencing school attendance showed a diminution of weakly children, but an increased number of children showing minor mental defects, psychoneuropathic conditions, and immaturity for school attendance. All these children were liable to have their health injured by the excitement caused by school life and by the intellectual demands of the school, so that an early separation of these children was advisable. With regard to girls during the period of development, she had observed different forms of hysteria, masked epilepsy, and conditions of maniacal depression. Girls showing such symptoms during the period of development did not always belong to the neuropathic class. Frau Stelzner recommended that mothers and school teachers should be reminded of the peculiarities and dangers of the age of puberty in girls, and that branch schools should be established in the country in connexion with parent institutions. In these branch schools the girls might remain for six months or a year during the anxious period and continue their studies.

July 29th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

An Autumn Post-graduate Course at the Hôtel Dieu.

A COURSE in clinical practice and the application of laboratory methods to diagnosis will be given at the Medical Clinic of the Hôtel Dieu, Paris, under the direction of Professor A. Gilbert, from Sept. 22nd to Oct. 7th inclusive. It will consist of 28 lessons and will be open to foreign medical men. The opening lecture will be delivered by Professor Gilbert on Monday, Sept. 22nd. The other classes will be conducted as follows. Sept. 22nd: M. Herscher, the Diagnosis of Tuberculosis; M. Deval, Chemical Examination of Urine. Sept. 23rd: M. Paul Descomps, Laboratory Diagnosis of Tuberculosis; M. Lippmann, Clinical Methods of Investigating the Circulatory System. Sept. 24th: M. Herscher, Tuberculosis (concluded), Diagnosis and Treatment of Serofibrinous Pleurisies; M. Deval, Chemical Analysis of the Blood. Sept. 25th: M. Lippmann, Clinical and Therapeutic Study of Cardiac Arrhythmias and Angina Pectoris; M. Paul Descomps, Study of the Spinal Fluid and of Pleural and Peritoneal Effusions. Sept. 26th: M. Bénard, Practical Bacteriology; M. Deval, Chemistry of the Stomach and Intestines. Sept. 27th: M. Lippmann, Therapeutics of Cardiopathies, Asystolia, and Arteriosclerosis; M. Herscher, Cholhæmimetry. Sept. 29th: M. Paul Descomps, New Clinical Methods of Diagnosis and Treatment in Syphilis; M. Bénard, Bacteriological Diagnosis of Syphilis and Soft Chancre. Sept. 30th: M. Grivot, the Examination of the Ear, Larynx, and Facial Cavities; M. Guilleminot, Electrodiagnosis. Oct. 1st: M. Guilleminot, X Rays and Radium in Diagnosis; M. Bénard, the Red and White Cells. Oct. 2nd: M. Jomier, Examination of the Kidneys; M. Chabrol, Hæmolysis and Opsonic Methods. Oct. 3rd: M. Jomier, Clinical Examination of a Patient with an Affection of the Digestive Canal; M. Maurice Villaret, Clinical Examination of a Hemiplegic, with or without Aphasia. Oct. 4th: M. Jomier, Clinical Examination of a Patient with Hepatic Affection; M. Chabrol, Complement Fixation. Oct. 6th: M. Maurice Villaret, Clinical Examination of a Paretic and a Tabetic Patient; M. Dausset: New Methods in Thermotherapy. Oct. 7th: M. Maurice Villaret, Diagnosis and Treatment of Acute and Chronic Meningitis; M. Chabrol, Wassermann's and Weinberg's and other Reactions. The course will be essentially practical, including the examination of patients, the manipulation of apparatus, and laboratory work. Subscriptions (100 francs for the course) may be sent to M. Deval, chef de laboratoire, Hôtel Dieu, Paris.

The Onion Treatment of Hydropic Nephritis.

Dr. Durodié has reported a case of the onion treatment in hydropic nephritis with complete retention of chlorides, which gave truly remarkable results. The patient's condition was extremely grave when the onion treatment was instituted. He was given thrice daily—at 8 A.M., at noon, and at 7 P.M.—a soup made of a quarter of a litre of milk and a large onion. At 10 A.M. and 4 P.M. he had in addition a whole onion, either roasted or *sauté* in a pan, with 125 grammes (about 4½ ounces) of bread. He thus took in the 24 hours five onions, three-quarters of a litre of milk, and somewhat over half a pound of bread, with a mere sip of fluid to quench thirst. After a few days of this hypochlorisation treatment the patient began to diminish in size, his swollen and cyanosed face regained a human look, the extensive œdema which had entirely obscured the genitalia disappeared in a remarkable fashion, and his limbs, which for many weeks had been powerless and fixed by the enormous infiltration, regained little by little their shape and natural play. After two weeks of the onion treatment, to which Dr. Durodié appears willing to give the credit, the patient had entirely recovered his normal facies and his natural shape. He was absolutely relieved of his anasarca, though unfortunately the nephritis remained, leaving a persistent trace of albuminuria.

July 29th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Locomotor Ataxia of Married Couples.

UP to the present time 28 cases of tabes conjugalis have been described in the literature of the subject, and Dr. Hudovernig has now placed on record three further cases of the kind. In all of these three couples the tabes was subsequent to syphilis, a relationship which also existed in the previously recorded cases; in fact, in 20 couples out of 24 syphilitic infection was diagnosed with certainty, in three couples there was reason to suspect it, and only one couple proved to be really free from syphilis. It follows that in 96·3 per cent. of the cases of conjugal tabes there was antecedent syphilitic infection. Lougres first brought forward the theory that tabes and general paralysis were produced by a special form of syphilis which he called a *virus nerveux*, and which, in his view, possessed a special affinity for the central nervous system. Dr. Hudovernig, however, declines to accept this view until convincing proofs are available. He holds that the reason why so many syphilitic patients eventually develop tabes or general paralysis, while others remain free from any sequelæ of the kind, is not to be sought in the above-named affinity of the syphilitic virus for the central nervous system, but that this special predisposition is more likely to depend on some other cause—perhaps some congenital or acquired peculiarity of the nervous system.

Tramcar Accidents.

According to the official published returns of the First Aid Society of Budapest the incidence of fatal accidents is 1 in 90·3 million passengers, while the incidence of serious accidents is 1 in 5,000,000, and that of slight accidents is 1 in 683,000. These ratios are about the same as are found to occur in Berlin. About three-fourths of the accidents are caused by careless jumping on and off the cars; only one-fifth of them was due to causes connected with the traffic itself. The number of accidents increases as the proportion of juvenile passengers increases. It is desirable that the car drivers should not be on duty longer than ten hours a day, because overworked drivers cannot be expected to be so attentive as those who have had a good rest. Accidents to women are often caused by tight skirts. The most frequent injuries are bruises and fractures.

New Legislation Relative to the Care of Tuberculous Patients in Hospitals.

New regulations relative to the care of tuberculous patients in our hospitals have now received legislative sanction. The main features of this law are as follows. Every hospital which has no special department for tuberculous patients must reserve separate rooms for male and female patients, in which rooms only such patients can be accommodated. The space provided for patients must be in accordance with the principle that about twice as much space shall be reckoned for such patients as for an equal number of other patients. If it is utterly impossible to provide separate rooms for tuberculous patients, at least those who are suffering from pulmonary disease shall be accommodated separately from other patients, all communication between them and other patients being strictly prohibited. Every patient suffering from pulmonary tuberculosis shall be provided with a separate spitting cup, which shall be cleaned every day and disinfected in such a manner as to ensure the destruction of pathogenic germs. The cups, plates, and other table requisites used by patients suffering from pulmonary tuberculosis must be thoroughly cleaned as soon as done with—preferably by being boiled all together in the same vessel of water in a room adjoining the patients' wards, and after this boiling they have to be cleaned separately. Evidently the table requisites for the various classes of patients must be easily distinguishable from one another, which can be easily done by having the articles in question of varying colours and shapes, or at least by putting special marks on those which are intended for the use of patients suffering from pulmonary tuberculosis. Similarly, their bedclothes and body linen shall not only bear distinctive marks, but shall be collected separately and kept separate. This regulation applies particularly to the pocket handkerchiefs of such patients. After use these are to be kept in a special receptacle and disinfected before they are washed. After such patients are discharged as recovered the furniture and the floors of the rooms which they have occupied must be washed and the walls limewashed. It is evident that in the vicinity of such patients no sweeping can be allowed unless preceded by some method of damping the surfaces or objects to be swept. It is very important that the attendants in the tuberculosis wards shall not have charge of non-tuberculous patients. The due observance of these rules is enforced by specially appointed sanitary inspectors, who are instructed to satisfy themselves that the rules are complied with. All hospitals have to send monthly reports to the board of health. This law is connected with another new law which came into force last January, and which orders the medical practitioners to notify every case of tuberculosis which comes under their care.

July 6th.

NORTH DEVON INFIRMARY, BARNSTAPLE.—At the eighty-seventh annual meeting of the subscribers to this institution on July 22nd, it was stated that the expenditure was £2800, a deficit of £31. Since the institution was opened 43,737 in-patients and 139,201 out-patients had been treated. The average daily number of occupied beds during the past 12 months was 37. It was decided to erect a balcony for the treatment of the patients at a cost of £200, towards which £100 have been given by Mrs. Theyre.

Obituary.

FRANCIS GOTCH, D.Sc. OXON. & LIVERP., LL.D. ST. AND., F.R.S.,

WAYNFLETE PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF OXFORD.

GENERAL regret has been occasioned by the death of Professor Francis Gotch, Waynflete Professor of Physiology at Oxford, which took place on July 15th in Kensington, at the house of his brother-in-law, Sir Arthur Whitelegge, after an illness of some months.

Francis Gotch was born at Bristol on July 13th, 1853, and had therefore just completed his sixtieth year. He was the son of the Rev. F. W. Gotch, LL.D., a scholarly divine who was one of the committee for revising the translation of the Old Testament. His early education was conducted at Amersham Hall School, Reading, whence he proceeded to University College, London, where he obtained the Gilchrist scholarship. He graduated in Arts at the University of London in 1873, and then entered the Science Faculty, taking the B.Sc. of London in 1875. Entering on the study of medicine, he became M.R.C.S. in 1881, and forthwith devoted himself to the study of physiology, in which pursuit his subsequent career was passed. On the completion of his examinations in anatomy and physiology Gotch continued his work at University College, London, mainly under Sidney Ringer and Christopher Heath, but his health broke down, and on the advice of the former he proceeded to Cape Town with a school friend, landing there in 1878, and the details of his Wanderjahr are interesting. He went to Durban, Pietermaritzburg, and Harrismith, reaching Potchefstroom, and thence crossing the Rand to Pretoria, traversing, perhaps, the site of Johannesburg; finally, they reached Port Elizabeth, and on going round by sea to Cape Town they met in the latter town the man who had been the resident medical officer of University College when they left England, who was on his way to take up a practice at Kimberley. His name was Leander Starr Jameson.

Gotch on his return was elected to a scholarship in logic and moral philosophy, and to the Sharpey scholarship in physiology, and became associated in the laboratory there with his great teacher, Professor John Burdon Sanderson, whom he accompanied as demonstrator of physiology to Oxford when the latter was called in 1883 to the Waynflete chair of physiology at that University. He has himself told of his first personal interview with Burdon Sanderson, the man who became both his teacher and life-long friend—one who was, indeed, destined to profoundly influence the whole character of his work. Gotch wrote: "I called on him in the familiar house in Gordon-square, after great hesitation, having been urged to do so by the late Mr. Christopher Heath. Our interview took place in the dining-room, and when he realised that I thought of trying to do a little physiological work of an advanced kind his response was prompt and singularly to the point. It consisted in leading me into a small back room full of apparatus, where a gentleman unknown to me was seated within what appeared to be an impenetrable jungle of wires. We threaded our way through the maze, the experiment was explained, and I was invited to sit down and assist." In later years it fell to Gotch's lot to write the obituary notice of Burdon Sanderson for the Royal Society, and as President of the Physiological Section of the British Association when it met at York in 1906, about six months after Sanderson's death, in no ungrudging terms, but with a warmth of feeling that was peculiarly characteristic of Gotch's nature, he has given evidence of the influence which Sanderson exerted both by his personality and by his single-minded pursuit of scientific truth not only on himself but on so many of his pupils. With others whose names are well known Gotch joined this band of workers. At that time the influence and position of Emil du Bois-Reymond was paramount at Berlin, just as that of Carl Ludwig was at Leipzig. In Berlin Gotch studied for a year, chiefly with Kronecker, then assistant professor in the laboratory; Christiani and Rosenthal also held subordinate positions in the laboratory. From the Berlin school, but from Burdon Sanderson in particular, Gotch undoubtedly acquired that bias towards electro-physiological problems which characterised most of his subsequent original work. In 1880 the problems of electro-physiology formed a very

real portion of physiology. A strong current it was, and a turbid and contentious one withal, though at the present time this flows more placidly.

On his return from Berlin Gotch worked as Sharpey physiological scholar at University College until two years later he accompanied Burdon Sanderson to Oxford. There he assisted his master to overcome the great opposition that was at first manifested towards the establishment of a physiological school at Oxford. His efforts were well received, as is known, and he received an honorary M.A. from the University in 1885. In 1891 he was appointed Holt Professor of Physiology at University College, Liverpool, retaining that post and being also Dean of the Medical School until 1895. During that period he delivered the Croonian lectures (1891) on his researches, made in conjunction with Sir Victor Horsley, on the central nervous system. In 1892 he was elected a Fellow of the Royal Society. In 1895 he succeeded his former chief, Sir John Burdon Sanderson, as Waynflete professor and held the post up to the time of his death. In 1896 he became M.A. of Oxford, and identified himself closely with university affairs, becoming a Fellow of Magdalen College and in later years a member of the Hebdomadal Council. He extended the organisation of the physiological laboratory there, established and equipped under his predecessor, by the introduction of special departments—viz., physiological chemistry under Dr. Ramsden, experimental physiology under Dr. Vernon, histology under Dr. Gustav Mann and Dr. Scott, respiratory physiology under Dr. Haldane and Dr. Douglas, and experimental psychology under Dr. McDougall. In 1901 he took the D.Sc. at Oxford. An honorary D.Sc. was also conferred on him by Liverpool University in 1907. St. Andrews University likewise honoured him with its LL.D. degree in 1911. From 1910 to 1912 he was a member of the departmental committee of the Board of Trade on sight tests for the Mercantile Marine, for which his special studies on the retina rendered him particularly qualified.

It is as a great physiologist that Gotch will always be known, and the following account of his work displays the thoroughness of his ideas, his unselfish character, and the remarkable advances along the special lines of electrophysiology that medicine owes to his learning and industry. It has been written by a friend who prefers to prefix to it only the initials "G. A. B."

"The subject of electro-physiology is practically a closed book to anyone unfamiliar with the actual experimental difficulties. The apparatus may be, and generally is, of exceeding delicacy, and it requires an apprenticeship both to understand and to use. Much of Gotch's early work was carried out with the galvanometer, and the time relations of an excitatory process would be obtained by adjustments with Bernstein's differential rheotome, which is an instrument now rarely described in text-books or referred to by the teacher. Another instrument of the past is Hermann's fall-rheotome, which certainly has not been seen by more than 1 per cent. of living physiologists. The capillary electrometer of Lippmann, perfected by G. J. Burch, who at the same time devised a method for the measurement and interpretation of the curves which are recorded on a moving photographic plate, was the instrument which was employed by Professor Gotch in most of his researches. The date of the Croonian lecture is 1891, in which a detailed account of his researches with his brother-in-law, Sir Victor Horsley, was given, and this sharply marks off the two periods of his experimental methods. Subsequent to this date in most, if not all, of his work the capillary electrometer replaced the galvanometer. Professor Gotch also fully recognised the possibility, nay probability, that the experimental stimuli which throw isolated excitable tissues into a state of activity may be quite different from those which normally flow out from a mass of nerve cells and break upon a muscle. He was, therefore, led to use various modes of excitation with the hope of more exactly reproducing an experimental stimulus, or a set of successive stimuli, which should resemble that of the normal impulse that travels along a nerve.

Among many of the researches made clear by his work on muscle and nerve several come clearly to our mind. In a paper with G. J. Burch he is careful to emphasise the point that when observations are made with the capillary electrometer it is a striking fact that the absence of any perceptible electrical response from a nerve does not necessarily imply the absence of a propagated excitatory disturbance. Again, in a paper on the Submaximal Electrical Response of Nerve to a Single Stimulus he showed that stimulation which was fully adequate for a portion only of the nerve fibres which may help to form a nerve trunk travels along the trunk as a submaximal effect, and may be followed by a submaximal response of a muscle. From experiments of this nature Gotch considered that a submaximal response is dependent upon the fact that only a limited number of muscle fibres are implicated in contraction.

The first communication of which I can find a record is one made in 1885 at Oxford. I remember to have seen the experiment. Gotch showed that the electrical discharge of Malapterurus electricus, a specimen of which he had obtained from the river Senegal, was from head to tail. This was already known, but he further showed that the interval of time which elapses between direct excitation of the electric organ and the response is 1/500th of a second, far too short an interval for the discharge to be a reflex response.

All the papers of Professor Gotch show evidence of the most careful experimental procedure. He has himself laid down a rule of conduct which may well be followed by many of us, and by all of those whose object in pursuing original work is, at the time, publication. 'In the carrying out of such experiments,' he says, 'the scientific man labours with a special sense of his intellectual and moral responsibility, and the fear of error thus necessitates that the same experiment should be repeated over and over again. Responsibility attaches to every experiment carried out for the furtherance of scientific knowledge, necessitating its frequent repetition under similar and under changed conditions. Nor does the responsible duty of the scientific man end here; the fear of leading others astray is ever pressing upon him, and demands that his description of his work shall be in language stripped of all ambiguity, language which shall set forth the experimental procedure and the results in their naked truth. The character of scientific work, with its expenditure of time, labour, and even wealth upon what the world regards as trivial detail, thus requires from him who employs the scientific method ungrudging service.'

Another research, that on the patellar tendon reflex, has always appeared to me the ideal of an adequate experimental method the results of which could be applied with the strictest logic as an answer to a disputed question. If this is a reflex action, Gotch asked, why does the contraction of the vastus internus, as has been demonstrated, precede that of the muscle of a nerve-muscle preparation, when both the patellar tendon and the nerve are simultaneously excited by a mechanical tap? Moreover, in agreement with other observers, Gotch found that the delay between the tap and the response was exceedingly short, only 0·005 of a second. In his opinion the idea of a reflex action for this deep-seated reflex could not be entertained.

The Croonian lecture of 1891, on the Mammalian Nervous System, its Functions, and their Localisation by an Electrical Method, the joint work of Professor Gotch and Sir Victor Horsley, will remain for a long time a model of accurate scientific work on the central nervous system. The method was a new one, at any rate differed in its accuracy from any of the previous attempts to trace the current of action along the corona radiata and the columns of the cord. The whole research has long been regarded as classical through the exactitude of the methods of experiment and the lucid interpretation of the observations. It was in this paper that the complete discharge of the cortical motor centres, both by excitation and by the action of absinthe, was recognised as distinctive from that observed when only the fibres of the corona radiata were stimulated, and it was shown that whereas the complete discharge of the cortex is that of an epileptiform convulsion, tonic succeeded by clonic spasms, only the former type of response followed excitation of the corona radiata. In this paper also it was shown that the majority of afferent impulses ascending the cord travelled up the lateral and posterior columns of the same side, a view now abundantly shown to be in accordance with clinical and experimental data, but at that time contradictory of the accepted view enunciated by Brown-Séquard and supported by his followers.

Though not pretending to completeness, the following papers by Gotch are arranged in chronological order. Most were contributed by Professor Gotch alone, some with Sir John Burdon Sanderson, others with G. J. Burch, and

FRANCIS GOTCH, D.SC. OXON. & LIVERP., LL.D. ST. AND., F.R.S.,
WAYNFLETE PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF OXFORD.

(From a photograph by Messrs. Elliott and Fry, Ltd.)

one with Professor Macdonald of Sheffield. In 1885 the Electrical Discharge of Malapterurus, Polarization of Nerve and Secondary Electromotive Effects, Inhibition of the Tortoise Heart, Demarcation Current in the Ventricle of the Frog, Demarcation Current in the Ventricle of the Tortoise. In 1887 papers in the Philosophical Transactions on the Electrical Organ of Torpedo, and on the Electrical Discharge of Malapterurus Electricus. The first paper embodied his observations made at Arcachon in the laboratory originally founded by Paul Bert. In 1887, with Burdon Sanderson at St. Andrews, he investigated the nature of the discharge of the electrical organ in the tail of the skate, an organ which had been discovered by Dr. Stark, of Edinburgh, in 1844. A paper on this appeared in 1888, and a second one, the result of work at Plymouth, in 1889. The paper on the Time Relations of the Patellar Tendon Reflex appeared in 1896, and the same year a joint paper with J. S. Macdonald on Temperature and Excitability, and another with G. J. Burch on the Electrical Response in Torpedo Marmorata. In 1898 and 1899 further papers appeared jointly with G. J. Burch on the Electrical Response of Nerve and the Reflex Discharge of the Electric Organ of Malapterurus. He contributed an account of 'Nerve' to the 'Text-book of Physiology,' edited by Professor Schäfer, in 1900. In 1902 Gotch contributed two papers to the *Journal of Physiology* on the Electrical Response of Nerve; in 1903, the Electrical Changes in the Eyeball; in 1905, the Spinthariscope and Retinal Stimulation; in 1910, Delay of the Electrical Response of Nerve to a Second Stimulus. In 1910 Gotch contributed a paper to *Heart* on the Succession of Events in the Contracting Ventricle as shown by Electrometer Records. The development of the heart from a primitive S-shaped tube was in accordance with the observations made by the electrometer. The heart of mammals, and especially that of the frog when fully developed, continues to display signs of its ontogeny, so that even when the original structure is obscured the wave of excitation normally travels in the heart from sinus to auricle, then to base of ventricle, then to apex, and finally terminates at the origin of the aorta. A paper in 1911 dealt fully with the Time Relations of the Photo-electric Changes produced in the Eyeball by means of Coloured Light, the results of which appeared to lend support to the Young-Helmholtz theory as modified by Clerk Maxwell, which assumes the existence of three distinct colour sensations—red, green, and violet.

Possessing to a high degree the logical mind, and the experimental skill and reasoned judgment, without which scientific research moves in a somewhat awkward and erratic manner, Professor Gotch was endowed with striking imaginative powers. Indeed, he regarded imagination as playing a distinct part in scientific method. Speaking of this he wrote: 'Science being pre-eminently a rational system of thought, does not as a rule influence men's actions or determine their beliefs, but when, though still based on reason, it becomes glorified by the touch of imagination and extends our mental view of the world beyond the limits of possible experience, then mankind acknowledges its authority and utilises its conceptions. Imagination is the rider on the white horse; there is given unto him a crown, and he rides forth conquering and to conquer.'

One aspect of Gotch's mind may be alluded to further—his attitude as a physiologist and a pupil of Burdon Sanderson towards the vitalists, or, as he terms them, neo-vitalists. His position may, I think, be represented faithfully in the following way. The question which is ever present in the mind of a consistent physiologist is not 'why' but 'how,' and a man like Gotch proposes to himself to acquire as exact a knowledge as is possible of the chemical and physical processes of animal life. Nor does he consider because certain physiological phenomena are, from the chemical and physical point of view, inexplicable at the present time, that from the nature of things such phenomena must ever remain so. The position of the vitalist involves a denial that physiological processes can ever be satisfactorily described or the behaviour of living organisms comprehended by the simple introduction of chemical and physical terms or methods, even if these terms are greatly enlarged in the future as a consequence of scientific progress. Gotch considered that neo-vitalism, like its parent vitalism, is fostered by the imperfect and prejudiced view which man is prone to take in regard to his own material existence. This existence is for us the most momentous of all questions, and it is therefore not surprising that man should assume that in physiology, pathology, or biology, the processes at work are of a peculiarly mystic character. He is reluctant to believe that those phenomena which constitute the material part of his existence can be intellectually regarded as processes of a physico-chemical type, differing only in complexity from those exhibited in the non-living world, and impelled by this reluctance he fabricates for them, out of his own conceit, a special and exclusive realm. It may be—though Gotch does not suggest it—when we reflect that of all animals none is so capable of special mental training along particular paths as the human being, that a part at any rate of the vitalistic attitude is due to this training, and to this alone. For are not nine-tenths of the performances of civilised life fastened on to us by training? And the same is equally true for our minds as for our bodies.

To his personal friends Gotch was well known to possess a many-sided character; the humorous side of things easily appealed to him. He was no pedant; he was fond of outdoor sports, in particular golf, and in earlier life cricket. He also possessed an enthusiastic love for mountaineering. But a simple enumeration of such details leaves but a faint idea of the personal charm which was peculiar to Gotch when interested in art, music, or literature, for each one of these found a place in his mind; and the catholicity of his taste in literature is shown by the fact that it comprised Wordsworth and Omar Khayyam in poetry; George Sand and R. L. Stevenson; and Bacon and Montaigne. I simply mention here authors which I have seen in his hands.

Professor Gotch was not only a man of remarkable scientific powers, but was highly gifted in other respects. His personality, his charm of manner, and wide knowledge of the world enabled him with ease to find a congenial home in Oxford, and to advance in a marked degree the fortunes of the Oxford Medical School. He loyally worked for the furtherance of this object, and was particularly anxious for the establishment of scholarships which should enable students to do original work in medical subjects. Most accessible to his students and colleagues, he has left many to reflect upon, and remember, his unvarying kindness, help, and advice. To his colleagues he was a staunch friend, and during the whole tenure of his term both at Liverpool and Oxford his relationship with those working in the laboratory was almost an ideal comradeship. Masterful to a certain degree, and quick at times in speech, somewhat intolerant of adverse criticism, Gotch undoubtedly was at times, but these traits are not infrequent in the behaviour of highly intellectual men. It is better so than that a man should appear to the world with the trappings of others gathered round him, so that he represents ideas and opinions not his own but what he has learnt to assume. Honest in his opinions, with no trace of meanness towards those differing from him, Francis Gotch will remain for a long time remembered and beloved by all who knew him."

Professor Gotch married in 1887 Miss Rosamunde Brunel Horsley, daughter of the late Mr. J. C. Horsley, R.A., and sister of Sir Victor Horsley. His widow, one son, and three daughters survive him.

The funeral service was held at the Chapel in Magdalen College, Oxford, on Saturday, July 19th, and was attended by the Vice-Chancellor, President and Fellows of Magdalen, the heads of many colleges in Oxford, professors in the University, and many of his friends in London, Edinburgh, and Liverpool, some whose association with Gotch dated from the time when they had worked together in their student days. He was buried in Wolvercote Cemetery, a few miles out of Oxford, his grave being not far from that of his friend and teacher, John Burdon Sanderson.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Francesco Egidi, *privat-docent* of laryngology in the University of Rome.—Dr. Domenico Lobello, *privat-docent* of anatomy in the University of Naples.—Dr. Knöwenagel, of Weimar, surgeon-general in the German army.—Dr. Seyffert, of Arnstadt, Thuringia, sanitary councillor.—Dr. W. H. P. Harding, of Hamburg.—Dr. von Bestelmeyer, of Munich, surgeon-general in the Bavarian army.

Correspondence.

"Audi alteram partem."

THE USE OF A MYDRIATIC IN DOUBTFUL CASES OF GLAUCOMA.

To the Editor of THE LANCET.

SIR,—There is a point in the review published in THE LANCET of July 26th of Dr. W. G. Sym's recently issued book on "Diseases and Injuries of the Eye" to which reference, I think, may usefully be made. In discussing the differential diagnosis between iritis and glaucoma in doubtful cases, the question is raised of resorting to the instillation of a mydriatic, and for this purpose the reviewer recommends homatropine, "which in the event of an error can be counteracted with eserine." A mydriatic of such potency, feeble though it be in comparison with atropine, is nevertheless, I believe, to be quite unnecessary; first, because a maximum dilatation of the pupil is, for the purpose, not required; secondly, because of the time which must necessarily elapse before the action of the myotic, eserine, can be effectual. The safest mydriatic, under the circumstances, is undoubtedly cocaine. The dilatation is more rapid than with any other similar alkaloid; the dilatation, although not of a maximum degree, is ample for the purpose; and thirdly and chiefly, myosis, if necessary, can be induced by eserine within half an hour after its instillation. The danger of homatropine, even in the hands of the expert, has been proved by the recorded cases of acute glaucoma supervening after its routine use. The value of homatropine is mainly as a cycloplegic, the duration of the effects of which is limited in comparison with atropine. It would be well, therefore, if its use were confined to this purpose. On the other hand, cocaine as a mydriatic, employed as well for examinational and diagnostic purposes, is both safe and effectual, and is naturally the safest, under all circumstances, in this regard for those who are not experts. The insistence upon this point I have frequently urged in my classes at the West London Post-Graduate College.

I am, Sir, yours faithfully,

Wimpole-street, W., July 26th, 1913. PERCY DUNN.

MIND AND BODY.

To the Editor of THE LANCET.

SIR,—I was much pleased when reading Sir Berkeley Moynihan's address in THE LANCET of July 26th, with his reference to the personal factor of the operator on the mind of the patient. Under the title "The Theory of Medicine as Contrasted with the Art," it forms the subject of a deeply interesting article in the report of the Boston City Hospital, Mass., from the pen of Dr. D. W. Cheever. I may be excused for making the following quotation, especially as it gives the pith of Dr. Cheever's advice: "The sick body means a sick mind. ..... What benefits it? Hearty interest—cheerful contact—hopeful words. Especially in a chronic case, he will succeed best who reads character as well as symptoms, and ministers to the soul as well as to the body."

I am, Sir, yours faithfully,

Dublin, July 26th, 1913. GEORGE FOY.

AN ANALYSIS OF 35 CONSECUTIVE CASES OF BRADYCARDIA.

To the Editor of THE LANCET.

SIR,—The addition of 24 more cases of bradycardia to the 35 noted in my paper on the above subject, published in THE LANCET of July 19th, alters to some extent the relative frequency of incidence of the four forms noted. These 24 cases have been collected since the writing of this paper, but the unavoidable delay in returning proofs prevented my adding them in the form of an addendum. The addition of these cases makes a total of 59 cases. The relative frequency now reads:—

	Cases.	
1. True bradycardia	23 =	38·9 per cent.
2. Missed beat	10 =	16·9 ,,
3. Auricular fibrillation	22 =	37·2 ,,
4. Heart-block. Auricle active	4 =	6·7 ,,

I am, Sir, yours faithfully,

Manchester, July 23rd, 1913. C. EDGAR LEA.

THE LADIES' PLATE AT HENLEY REGATTA.

To the Editor of THE LANCET.

SIR,—It is now nearly seven years since a manifesto was issued in the public press at the instigation of a well-known footballer, deprecating cross-country running for boys. It was signed by some half-dozen members of our profession of such eminence that their *ipse dixit* alone might have been expected to gain for it unchallenged acceptance. I do not remember that the slightest notice was taken of it, excepting, of course, the counter assertions of prominent athletes that the danger alluded to was exaggerated or even imaginary; nor, so far as I am aware, has the slightest mishap occurred as the result of the ignoring of this *ex-cathedrâ* statement.

This is by no means the only protest of its kind that has appeared in the lay and medical press. I believe I am right in saying that as far back as 1867, an eminent surgeon appealed to his own experiences and to those of his professional brethren, in support of his contention that many a ruined constitution is to be laid to the account of the strain incurred in the University Boat-race. Since then the matter has never been allowed to drop, but a controversy has been resumed from time to time, now, as in this instance, against rowing, now against all forms of strenuous athletics.

It will be in no wise a reflection upon Mr. Shepherd Boyd's powers of persuasion if his protest shares the fate of its predecessors—an inevitable fate in my opinion. Whether his argument is based upon a real danger or not, I do not expect that anybody in authority will be in the slightest degree influenced in the direction of reform. The schoolboy's craze for competitive athletics is dependent upon what may almost be termed a physiological necessity; and even if Mr. Boyd and others of his opinion could advance substantial evidence in support of their warning, the schoolboy would not listen to them, nor for that matter would those who regulate schoolboys' athletics.

I have always held a brief for athletics, and I am bound to say that increasing experience does not lead me to alter my views. Nevertheless, I am to a certain extent in agreement with Mr. Boyd. I regard rowing as quite apart from all other forms of violent exercise, not so much because of the extreme exertion involved (I doubt if the strain is any greater than that of running a hard "quarter"), but because an oarsman is stimulated to do really more than the limit of his physical power. Once in an eight, a man merges his individuality in his crew; and although were he himself alone concerned he would give in, he cannot do so because of the duty he owes to his seven colleagues. (Who that has rowed in a desperate race will not agree that he has felt that to go on means death, but that even death seems preferable to the indescribable disgrace of stopping?) Such an exercise for boys is for this reason, and for this reason alone, undesirable.

To continue the consideration of rowing, I would go further than Mr. Boyd; I would like to see a better control of the rowing at the 'Varsities. It is, I suppose, pretty well realised that, stimulated by the glamour associated with university rowing and the persuasiveness of the boat captains, almost every freshman who is not an excellent performer at some other branch of sport takes to the river. And how many continue after the first couple of terms? Some mercifully realise their unsuitability for this form of exercise; some are broken—broken in a few weeks. For whereas the *élite* of the 'Varsity rowing world are in the hands of experts, the humble members of a Lent boat or "Togger" are looked after by some junior rowing official whose ignorance of physiology runs parallel with his obstinate refusal to study idiosyncrasies. If constitutions are ruined by rowing, the blame is much more likely to be due to the "training" than to over-exertion in racing.

Mr. T. A. I. Howell invites opinions on the subject of training, since, he says, there is no doubt that school crews will continue to compete at Henley. Of course they will continue to compete. Eton, Radley, Bedford, Shrewsbury would scoff at the idea of not being strong enough to meet college crews, let alone of abandoning rowing altogether. It might be possible for them to preserve their traditions and yet restrict rowing to boys of a certain age and of unquestionable physique. One would like also to see the training divorced from the coaching. Place the latter in the hands

of anybody you please, but leave the former to a man versed in the elements of physiology (no matter how ignorant he may be of the technical details of propelling a boat), a man who understands human constitutions, and who appreciates the difficulty of bringing eight men, often of widely differing characteristics, simultaneously up to the highest pitch of physical efficiency. A coach-trainer who combines all the essential characteristics, like the late R. B. Etherington-Smith, is, alas, a *rara avis* indeed.

I should be sorry to see a restraint imposed upon competitive athletics for boys; the moral value is very great, even if the physical side is open to criticism. But I do agree with Mr. Boyd when rowing is in question, although I must admit that I agree with him on theoretical lines, because, like Mr. Howell, I have never seen any undoubted injury in a healthy boy or man result from boat racing. I am, Sir, yours faithfully,

ADOLPHE ABRAHAMS,
Consulting Medical Officer to the British Olympic Athletic Team at Stockholm, 1912.

Harley-street, W., July 25th, 1913.

ULTRA X RAYS AND LABYRINTHINE DEAFNESS.

To the Editor of THE LANCET.

SIR,—On p. 223 of THE LANCET of July 26th in the report of a meeting of the British Oto-Laryngological Society it is said: "Dr. H. D. McCulloch mentioned a case of papilloma of the larynx which was ultimately considered to be malignant, but which disappeared under treatment by the ultra X rays. There had been no recurrence." It would appear that the same treatment that is applicable to a superficial condition has been found to be equally applicable to a very remote and deep condition, as the case in chronic labyrinthine conditions is. Such is not the case. In the former the unfiltered short X rays, emitted by a soft Crookes's tube, were applied, working at a spark gap of from 1 to 2 inches. In the latter the filtered long X rays from the hardest possible Crookes's tube were applied, working at a spark gap of from 10 to 12 inches.

I am, Sir, yours faithfully,

Harley-street, W., July 26th, 1913. H. D. MCCULLOCH.

THE MEDICAL DIRECTORY.

To the Editor of THE LANCET.

SIR,—The annual circular for the Medical Directory will be posted to the members of the medical profession on the 31st inst. If by any chance the circular is not received within a few days of the date of posting, we shall be pleased to forward a copy on request.

We trust that all practitioners will make their returns to us promptly, in order that the entries may be as accurate and up to date as possible.

The Directory will, as usual, be published a few days before Christmas, and to this end we ask for the coöperation of the profession.

We are, Sir, yours faithfully,

J. AND A. CHURCHILL.

7, Great Marlborough-street, W., July 26th, 1913.

THE NATIONAL INSURANCE ACT: LOCAL MEDICAL COMMITTEES.

To the Editor of THE LANCET.

SIR,—At the meeting of the Hampstead Insurance Medical Society held this afternoon, the following resolution was passed unanimously:—

That the Hampstead Insurance Medical Society joins in a petition to Parliament that in the Amending Bill to the National Health Insurance Act now before Committee, Clause 62 be amended to the effect that the appointment of a Local Medical Committee be in the sole control of the practitioners on the panel of the district.

I am, Sir, yours faithfully,

S. BARKER, Hon. Sec.

Parkhill-road, Hampstead, N.W., July 22nd, 1913.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Preliminary Science Examination for the Licence in Dental Surgery held on July 15th, 17th, 18th, and 19th, the following candidates were approved in the undermentioned subjects:—

Chemistry and Physics.—Harcourt Cecil Reuben Aubrey, Bristol University; Alan Harry Reynolds Bevan, Banbury Technical Institute; Eric Bottomley, Bradford Technical College; Aubrey Ernest Burt, Sherborne School; Leonard Salway Chesterfield, Hartley University College, Southampton; Neville George Compton, Royal Dental Hospital; Norman Henry Davey, Leeds University; Albert Edward Fyffe, Sheffield University; Edwin Spencer Goodwin, Mathematical School, Rochester; Rosa Edwards Harse, London School of Medicine for Women; John Lawrence Hughes, Swansea Technical College; Clifford Morley John, Bristol University; Gilbert Sidney Jones, Middlesex Hospital; Hugh Llywelyn Jones, Towyn Inter. School, Merioneth; Ronald Victor Knight, Bristol University; Wright Lambert, Leeds Institute; Oswald Octavius Lloyd, Birkbeck College; James Newman, Royal Technical Institute, Salford; John Durrell Pank, Leeds University; John Peter, Royal Dental Hospital; Harold John Powell, City of London School; Enoch Sanders, Liverpool University; Rodney Frederick Jarrett Sterwin, London Hospital; William Henry Barton Stride, Bristol University; Frederick Cuthbert Tonkin, University College, Nottingham; Stanley Ethelbert Tweney, Swansea Technical College; Edward Francis Vowles, Bristol University; Frederick Harry Wallace, Guy's Hospital; Maurice Harold Wermig, Birkbeck College; and George Wilshire, Dulwich College.

Chemistry.—James Alan Gilbert, London Hospital; Geoffrey Miles Haydon, Bristol University; Alice Dora Headley, Birmingham University; Godfrey Macdona Hick, Bristol University; Charles Luke Highton, Liverpool University; Thomas Sidda Hoyland, Sheffield University; Robert Hynes, University College, Nottingham; Aubrey Granville Maudsley, Polytechnic Institute; William Grant Milton, Bristol University; Arthur Leonard Minchin, Sheffield University; Clarence Norman Pearson, London Hospital; Hedley Victor Stebbings, Guy's Hospital; and William Lawrence Patrick Watterson, Royal Dental Hospital.

Physics.—George Rowland Durston Bradfield, University College, Exeter; Rossiter Hodgson Bywaters, Royal Dental Hospital; Frederick Walter Day, Polytechnic Institute; Reginald Fyson and Oscar King Hardy, Royal Dental Hospital; Eric Rupert Heaton, Birkbeck College; Walter Kember, Liverpool University; Alan Lethaby Morgan, Bristol University; Archibald Felix Percy, University College, Exeter; Robert Ferdinand Sievers, John Speak, and Leslie Horace Van der Pant, Royal Dental Hospital; Percy Williams, Liverpool University; Malcolm Wykes, Birmingham University; and Claude Young, Royal Dental Hospital.

UNIVERSITY OF LONDON.—At examinations held in July the following candidates were successful:—

SECOND EXAMINATION FOR MEDICAL DEGREES, PART II.

John Struan Alexander, University College; Mary Neville Andrews, London (Royal Free Hospital) School of Medicine for Women; Kevin Doyle Atteridge, St. Bartholomew's Hospital; Robert Townly Bailey, King's College and Charing Cross Hospital; Gordon Eric Barker, St. Mary's Hospital; George Charles Berg, St. Thomas's Hospital; John Archibald Binning, University College; Charles Vincent Boland, St. Bartholomew's Hospital; Margaret Stote Glen Bott, London (Royal Free Hospital) School of Medicine for Women; *Charles Hugh Colclough Byrne, St. Thomas's Hospital; Louis Abel Celestin, University College; Alfred Wilkinson Cocking, Guy's Hospital; Ronald Campbell Cooke, St. Thomas's Hospital; Stephen Andrew Cornelius, University College; William Maurice Crombie, St. Thomas's Hospital; Allen Roy Dingley, St. Bartholomew's Hospital; Reginald Oliver Eades, University College; *Eric Hastings Eastwood, University of Liverpool; Charles Yarrow Eccles, St. Thomas's Hospital; William Jones Evans, University College, Cardiff; Victor Feldman, Ronald Kelson Ford, and Paul Currey Gibson, London Hospital; Mohamed Hamza Hassan, King's College; George Edwin Heath, St. Bartholomew's Hospital; Geoffrey Oliver Hempson, University College; Norman Hammond Hill, St. Bartholomew's Hospital; Harry Mainwaring Holt, University of Leeds; William Andrew Hotson, King's College and Westminster Hospital; *George Philip Buckingham Huddy, London Hospital; Edith Caroline Hudgell, London (Royal Free Hospital) School of Medicine for Women; Hugh Llewelyn Glyn Hughes and Robert Percival Langford-Jones, University College; Francis Reginald Law, University of Leeds; Reginald Heber Leigh, King's College; Herman Lewis, London Hospital; Kenneth Thomas Limbery, St. Thomas's Hospital; Walter Henry Lloyd, Middlesex Hospital; William Francis MacAlevey, St. Mary's Hospital; Peter George McEvedy, Guy's Hospital; Maurice Mackenzie, London Hospital; Desmond Manus MacManus, Guy's Hospital; George Alex Sheridan Madgwick, London Hospital; Ferdinand Molina, St. Thomas's Hospital; John Kerr Muir, Middlesex Hospital; Doris Mary Pearce, University of Birmingham; Griffith James Randell and David Rees, University College, Cardiff; John Augustus Waring Robinson, King's College; Elisabeth Henrietta Schwab, London (Royal Free Hospital) School of Medicine for Women; Thomas William Short, London Hospital; Bertram Baber Silcock, University College; John Forest Smith and Harold Gane Stormer, St. Thomas's Hospital; Raymond Stowers, University College; Edward Cowper Tamplin, St. Thomas's Hospital; Hugh Watts Taylor, London Hospital; James William Tudor Thomas, University College, Cardiff; William Thomas, St. Thomas's Hospital; William Henry Thomas, University College, Cardiff; Ralph Reakes Thompson, London Hospital; John

Woollaston Wayte, St. Thomas's Hospital; William Ronald White-Cooper, St. Bartholomew's Hospital; Arthur Willatt, London Hospital; and George Cuthbert Nelson Younger, Middlesex Hospital.

* Distinguished in Anatomy.

M.D. EXAMINATION.

Branch I., Medicine.—Alfred David Eldred Bayliss, B.S., University College Hospital; Thomas Knowles Boney, B.S., St. Bartholomew's Hospital; Arthur Burrows, B.S., London Hospital; Arthur Neville Cox, B.S., Guy's Hospital; Guy Stanley Earl, B.S., St. George's Hospital; Allan Baines Fearnley, B.S., St. Bartholomew's Hospital; Henry Pollard Hacker, B.S., B.Sc., King's College Hospital; Charles Herbert Farley Johnston, B.S., Charing Cross Hospital; Evan John Goronwy Jones, B.S., and David Keanedy, B.S., University College Hospital; William James O'Donovan, B.S., London Hospital; Ellen Mary Pickard, B.S., London (Royal Free Hospital) School of Medicine for Women; and Charles McMoran Wilson, B.S. (University Medal), St. Mary's Hospital.

Branch III., Mental Diseases and Psychology.—Joseph Arthur Perdrau, B.S., University College Hospital.

Branch IV., Midwifery and Diseases of Women.—Arnold Charles S. Courts, B.S., and Sidney Forsdike, University College Hospital; Arthur Webb Jones, B.S., St. Thomas's Hospital; and Mary Eva Hastings Morris, London (Royal Free Hospital) School of Medicine for Women.

Branch V., State Medicine.—Norman Hamilton Walker, B.S., St. Bartholomew's Hospital.

Branch VI., Tropical Medicine.—Charles Noel Davis, B.S., St. Bartholomew's Hospital.

M.S. EXAMINATION.

Branch I., Surgery.—Geoffrey Jefferson (University Medal), Victoria University of Manchester; Thomas Duncan Macgregor Stout, Guy's Hospital; James Owen David Wade, University College, Cardiff, and Charing Cross Hospital; and *Charles Henry Shorney Webb, Middlesex Hospital.

* Obtained the number of marks qualifying for the University medal.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery.—S. H. Andrews (Sections I. and II.), St. Bartholomew's Hospital; P. R. Cross (Sections I. and II.), St. Mary's Hospital; G. E. Cuttle (Sections I. and II.), Manchester; C. Duncan (Sections I. and II.), Durham; H. E. B. Finlaison (Sections I. and II.), St. Mary's Hospital; A. Lowndes (Sections I. and II.), Manchester; W. E. Masters (Section I.), London Hospital; S. E. Murray (Sections I. and II.), Durham; and T. B. Paul (Section II.), Middlesex Hospital.

Medicine.—T. H. Cresswell (Sections I. and II.), Middlesex Hospital; G. E. Cuttle (Section II.), Manchester; C. Duncan (Section I.), Durham; W. E. Masters (Sections I. and II.), London Hospital; S. E. Murray (Section I.), Durham; T. B. Paul (Sections I. and II.), Middlesex Hospital; and C. B. Reckitt (Section I.), Guy's Hospital.

Forensic Medicine.—L. B. Clarke, Cambridge and St. Mary's Hospital; G. E. Cuttle, Manchester; H. Dudley, University College Hospital; C. Duncan, Durham; W. E. Masters, London Hospital; and S. E. Murray and W. Smith, Durham.

Midwifery.—C. Duncan, Durham; G. W. Maw, University College Hospital; W. E. Masters, London Hospital; H. Morrison, Leeds and St. Mary's Hospital; and S. E. Murray and W. Smith, Durham.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: S. H. Andrews, G. E. Cuttle, H. E. B. Finlaison, A. Lowndes, and T. B. Paul.

LONDON SCHOOL OF TROPICAL MEDICINE.—The following were the successful candidates at the examination held at the end of the forty-second session (May–July, 1913):—

With distinction: E. C. Perkins, H. H. G. Knapp, C. N. Davis, J. E. H. Gatt, and W. E. Glover (Colonial Service). Pass: J. Hanington (Colonial Service), Mrs. D. Parsons, W. L. Webb (Colonial Service), G. Dunderdale (Colonial Service), B. B. Paymaster, R. Trudinger, W. E. S. Digby (Colonial Service), H. North (Colonial Service), J. A. Valentine, R. P. Ratnakar, G. da Silva, H. H. Stewart (Colonial Service), P. J. Zepeda, J. M. Cure (Mauritius Scholar), A. Robertson (Colonial Service), E. V. Smith (Colonial Service), C. E. F. Mouat-Biggs, H. E. Fretz, J. B. Dalzell Hunter, R. H. Miller (Colonial Service), J. Dunlop, C. R. Patton (Colonial Service), O. Arnott (Colonial Service), C. S. G. Mylrea, C. J. H. Pearson (Colonial Service), J. Y. Ferguson, and B. W. F. Wood.

ROYAL MEDICAL BENEVOLENT FUND.—At the July meeting of the committee 21 cases were considered and grants amounting to £150 made to 16 of the applicants. The following is an abstract of the cases relieved:—

Widow, aged 55, of M.R.C.S., L.R.C.P. No income, and has recently undergone a severe internal operation. Voted £5.—Daughter, aged 57, of M.R.C.S., L.S.A. No income; slight help from relations; health too indifferent for regular occupation. Relieved seven times, £70. Voted £10.—Widow, aged 67, of M.R.C.S., L.R.C.P. Has a small pension from a City company and receives slight assistance from relations, but is obliged to ask for help because she has to support an invalid daughter who is quite unfit for any occupation. Voted £12.—M.R.C.S., L.R.C.P., aged 38. Incapacitated by phthisis, but is progressing under treatment, and hopes to be soon able to work again; dependent, with his wife and two children, on relations who can ill afford to help. Voted £12.—Wife, aged 39, of M.R.C.S., L.R.C.P. Husband has been in bad health for some years past, and during the last three months had been unable to earn anything. No income; three children, aged 16 to 7; small savings practically exhausted. Relieved three times, £25. Voted £10.—Daughter, aged 68, of late M.R.C.S. Receives a home in return for her services, but is given no salary; health indifferent. Relieved 11 times, £156. Voted £12.—Widow, aged 63, of M.B. Glasg. Lost her husband a few months ago after a long illness; only certain income £18 a year. Relieved once, £8. Voted £8.—Widow, aged 63, of M.D. St. And. No income; precarious earnings by letting lodgings; children unable to help. Relieved nine times, £108. Voted £12.—Daughter, aged 58, of late M.D. Edin. Used to be a governess, but for some years past has been unable to obtain a post in that capacity, and now endeavours to support herself by needlework. Relieved eight times, £40. Voted £10.—Daughter, aged 86, of late M.R.C.S. No income; health too feeble to admit of self-support; slight help from friends. Relieved six times, £76. Voted £12.—Daughter, aged 32, of late M.D. Unable to earn a living on account of long-continued ill-health, and dependent on her mother, whose only income is £40 a year. Relieved eight times, £80. Voted £10.—Daughter, aged 56, of late M.R.C.S. Gives her services in return for a home but receives no salary, and being in bad health is obliged to incur unavoidable expenses. Relieved five times, £25. Voted £5.—Daughter, aged 63, of late F.R.C.S. Maintained herself as matron of an institution for many years but is now in indifferent health; only income a small pension from another society. Relieved twice, £28. Voted £8.—Widow, aged 65, of L.R.C.P. Lond. Was left a widow many years ago with five young children, and has exhausted her means in bringing them up. Only income £30 a year from Epsom College. Relieved three times, £36. Voted £6.—Daughter, aged 57, of late L.R.C.P. Edin. Incapacitated for many years and dependent on two sisters, whose earnings are very small; has recently undergone a severe operation. Relieved nine times, £31. Voted £10.—Daughter, aged 43, of late M.D. Lond. No income, and help given by a friend for some time past unavoidably withdrawn. Relieved once, £5. Voted £12.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held on July 23rd at Caxton House, Westminster, with Sir Francis H. Champneys in the chair. The Board considered the following charges, amongst others, against the midwives whose names are given below, and ordered them to be struck off the roll:—Hannah Easter, that being in attendance as a midwife at a confinement, the patient suffering from rigor with raised temperature, and being seriously ill, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (4), and she neglected to take or record the temperature of the patient, as required by Rule E. 13. Eliza Keighley, that being in attendance as a midwife at a confinement she did not observe the antiseptic precautions required by Rules E. 3 and 7, she did not wash the patient at any time, and the child having died before the attendance of a registered medical practitioner she did not notify the local supervising authority, as required by Rule E. 21. Mary Pearson, that being in attendance as a midwife at a confinement, the placenta and membranes not having been expelled within two hours of the birth, which took place at 3.30 A.M., she did not until 7.30 A.M. advise that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (3), and when advising at such last mentioned hour that medical aid was necessary she omitted to make use of the prescribed form, as required by Rule E. 22, and did not draw the attention of any person to the urgent circumstances of the case, nor did she until 8.20 A.M. intimate that the condition of the patient called for immediate assistance from a medical practitioner. Mary Elizabeth Smith, that being in attendance as a midwife at a confinement she did not correctly take or record the temperature of the patient, and she washed the patient once only—namely, on the day of the confinement. Louisa Georgiana Stephens, that being in attendance as a midwife at a confinement she administered a drug other than a simple aperient without entering the fact in her register, as required by Rule E. 18, that she did not correctly record the temperature of her patients as required by Rule E. 13, and that she did not keep her register of cases as required by Rule E. 23. Jane Taylor, that being in attendance as a midwife at a confinement she neglected to swab the patient with an antiseptic solution on the day of the confinement, as required by Rule E. 7, she neglected to take and record the temperature of the

patient at each visit, as required by Rule E. 13, and she did not keep her register of cases as required by Rule E. 23. Mary Ann Whitfield, that being in attendance as a midwife at a confinement she did not at any time take the pulse and temperature of the patient, as required by Rule E. 13, and she did not keep her register of cases as required by Rule E. 23. Ann Wood, that being in attendance as a midwife at a confinement, the case being one of puerperal fever, she attended another patient in her confinement without having undergone disinfection to the satisfaction of the local supervising authority, as required by Rule E. 5. The following midwives were censured after charges against them had been considered: Edith Emily Augusta Johnson and Matilda Robinson.—A meeting was also held at Caxton House, Westminster, on July 24th, Sir Francis H. Champneys being in the chair. A letter was considered from the medical officer of health of the city of Manchester asking the Board to regard all breech presentations as abnormal cases requiring medical aid. The Board directed that the medical officer for the city of Manchester be informed that Rule E. 20 (3) has been fully considered at each revision of the rules, and that its present form is the result of considerable experience, but that his letter shall be filed for consideration at the next revision. Rule E. 20 (3) reads as follows: "Conditions in which medical help must be sent for. ..... Labour. (3) In the case of a woman in labour at or near term, when there is any abnormality or complications, such as fits or convulsions, a purulent discharge, sores of the genitals, a malpresentation, presentation other than the uncomplicated head or breech, where no presentation can be made out, where there is excessive bleeding, where two hours after the birth of the child the placenta and membranes have not been completely expelled, in cases of serious rupture of the perineum, or of other injuries of the soft parts."

PRESENTATION TO SIR THOMAS CROSBY.—On July 29th, at the House of the Royal Society of Medicine, Sir Thomas Boor Crosby, M.D., F.R.C.S., late Lord Mayor of London, was presented with a service of plate and a volume containing the signatures of medical practitioners who had subscribed to the testimonial. Sir Thomas Barlow, President of the Royal College of Physicians of London, took the chair, and the presentation was made by Sir Rickman J. Godlee, President of the Royal College of Surgeons of England, and Mr. W. Bramley Taylor, Master of the Society of Apothecaries. Among those present were Sir Francis Champneys, President of the Royal Society of Medicine, Sir James Goodhart, Sir David Ferrier, Sir W. Arbuthnot Lane, Mr. G. H. Makins, Dr. Mary Scharlieb, Mr. R. Clement Lucas, Mr. C. A. Ballance, Mr. Edmund Owen, and Sir John Broadbent.

PEARN CONVALESCENT HOME, NEAR PLYMOUTH.—The Pearn Convalescent Home has been performing a most useful work for the past 18 years, and at the annual meeting of the friends of the charity on July 24th it was stated that during the past 12 months 447 patients had been admitted, the majority of whom came from the South Devon and East Cornwall Hospital, the Royal Albert Hospital, and the Plymouth Royal Eye Infirmary. In addition, 93 nurses requiring rest were accommodated at the "Nurses' Home" attached to the institution. The financial statement showed that the expenditure in connexion with the convalescent home was £1131, the average cost of each patient amounting to 2*s.* 6*d.* a day.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Mental Deficiency Bill.

THE House of Commons sat until a quarter to four o'clock on the morning of Tuesday, July 29th, discussing the Mental Deficiency Bill on report.

The report stage was concluded at any early hour on the morning of Wednesday, July 30th. The Bill was then read a third time.

Highlands and Islands (Medical Service) Bill.

The Highlands and Islands (Medical Service) Bill which Mr. MCKINNON WOOD (Secretary for Scotland), recently introduced in the House of Commons has been printed. Its object is to authorise a special annual grant of £42,000 for the purpose of improving medical service in these remote districts.

Clause 2 provides for the appointment of a Board consisting of not less than five and not more than nine members, to be called the Highlands and Islands (Medical Service) Board.

The Board has the duty imposed on it of providing by a scheme or schemes for the purpose of improving medical service in the Highlands and Islands of Scotland, and otherwise providing and improving means for the prevention, treatment, and alleviation of illness and suffering.

Clause 3 contains important provisions in respect to the schemes. It runs:—

"(1) Provision shall be made by scheme under this Act for the conditions under which any money from the Highlands and Islands (Medical Service) Fund placed at the disposal of local authorities, insurance committees or other bodies or persons or any joint committee of local authorities or insurance committees, or of local authorities and insurance committees, is to be applied by them, and as respects any money from that Fund which is to be applied by the Board, as to the purposes for which it is to be so applied.

"(2) Where under any such scheme any money is be applied by the Board for the purpose of building houses for medical practitioners or nurses, or for the purpose of building hospitals, or for any other purposes for which land may be required, the Board, if the money is to be applied by them, shall, if the scheme so provides, have the like powers for those purposes with respect to the acquisition, holding, and disposal of land as authorities under the Public Health (Scotland) Act, 1897, have for the purposes of that Act, and that Act shall be construed accordingly.

"(3) Where under any such scheme any money is to be applied by a local authority for any purpose, that authority shall have all such powers for the purpose as the scheme may provide, and if the scheme so provides, any powers vested in a local authority of acquiring land, or erecting buildings, or borrowing on the security of any rate for any purpose, shall be extended so as to include the purposes of the scheme, and any Act conferring any such power shall be construed accordingly.

"(4) Any scheme under this Act may be revoked or varied by a scheme prepared and approved in like manner as the original scheme.

"(5) The provisions of Section 15 of the Public Health (Scotland) Act, 1897, with respect to the removal of a medical officer by or with the sanction of the Local Government Board for Scotland shall extend to any medical practitioner appointed by a parish council for the purpose of any duties of that council."

It is intended that the measure will be operative until the end of 1917, but certain powers are given to provide further by Order in Council for the continued administration of the Fund.

The Bill received a second reading in the House of Commons, and on Tuesday, July 29th, was passed by the Scottish Standing Committee.

There was one change of some importance made in the schedule, which originally enumerated as follows the areas to which the Bill was applicable: The counties of Argyll, Caithness, Inverness (excluding the Burgh of Inverness), Ross and Cromarty, Sutherland, Orkney, and Zetland; the Highlands of Perthshire—that is to say, the Highland District of the county of Perth, and the parishes of Balquhidder, Callander, Comrie, Killin, and Kirkmichael.

On the motion of Mr. MUNRO it was decided to excise from the schedule the Highlands of Perthshire, so as to confine the operation of the Bill entirely to the crofting counties, of which Perthshire is not one.

National Insurance Act (1911) Amendment Bill.

Standing Committee C of the House of Commons has been sitting daily on the National Insurance Act (1911) Amendment Bill.

On Thurday, July 24th, there was some discussion on an amendment proposed to Clause 9 (extension of powers of Commissioners to make regulations). This amendment, moved by Mr. BATHURST, was to the effect that the regulations should not limit medical attendance and treatment. He said that it was a serious grievance that the regulations had narrowed the range of cases which an ordinary practitioner might be called upon to treat, and that insured persons had been referred to medical men with specialist knowledge to whom a special fee was payable. Mr. MASTERMAN denied that the regulations could have the effect of limiting the rights of insured persons in receiving such treatment as an ordinary practitioner might reasonably give. Sir PHILIP MAGNUS pointed out that it had been understood by the medical profession that a medical man who accepted panel service should only treat such cases as came within the general knowledge of the ordinary practitioner. The amendment was not pressed. Another amendment to merge the National Insurance Commissioners for England, Wales, Scotland, and Ireland into one body was not accepted by the committee.

On Friday, July 25th, the committee completed the discussion of the text of the Bill, but numerous proposed new clauses appeared on the notice paper. Considerable discussion arose on a new clause proposed by Mr. GODFREY LOCKER-LAMPSON providing that the maternity benefit should be payable to the mother or some woman nominated by her. The matter raised had not been finally decided when the committee adjourned.

Hospitals and the Sickness Benefit.

On Tuesday, July 29th, Mr. CHARLES BATHURST moved to repeal Section 12 of the principal Act, which provided that sickness, disable-

ment, or maternity benefit should not be paid to an insured person who was an inmate of any hospital, workhouse, infirmary, or any institution maintained by a public authority out of public funds or by voluntary subscriptions. Under the section the benefits were, the honourable Member said, to be applied to the relief of the patient's dependents, or to the uses of the Insurance Committee, or to the institution of which the insured person was a patient. According to his information, the section was practically a dead letter, and where it was operative there was no uniformity in its administration. Approved Societies had simply found some plausible excuse for paying the sick benefit in such a way that it would ultimately reach the sick person in the institution. The section was thus evaded.

After some discussion, Mr. MASTERMAN expressed the opinion that there was no use to excise Section 12 from the principal Act when the point raised by Mr. BATHURST could be otherwise cleared up. What they had really to deal with was the case of insured persons who had no dependents. As the law stood now it was optional for members of the Approved Societies if they did not go into hospital to apply their sick pay for any purpose which was for their benefit. The actuarial calculations assumed that the sick man or woman would receive full sick pay in one way or another, and the time had come when it should be declared that every man or woman should receive sick pay. An argument might be used that some of the money should go to the hospital. If the insured person was willing, some of the money could go to the hospital, but he would be very chary in making over to the hospital the whole of the benefit. He had received no request from the hospitals that they should be allowed to take paying patients. If they did make poor people pay there would be a very large decrease in the amount of the subscriptions. There ought not to be any pressure put on the patients to sign away their sick pay to a hospital. He would move that the following new clause should be inserted in the Bill:—"Section 12 of the principal Act shall have effect as though the first proviso to Subsection 2 of that section were omitted therefrom, and any sum which but for the provision of that section would have been payable to any person on account of sickness, disablement, or maternity benefit, if and so far as it is not paid or applied in accordance with the provisions of that section, while the person to and in respect of whom it would have been payable is an inmate of any workhouse, hospital, asylum, convalescent home, or infirmary, shall, if the society or committee administering the benefit thinks fit, be applied in the provision of any surgical appliances required for the person or otherwise for his benefit after he ceases to be an inmate, or if it is not expended shall be paid in cash to the person after leaving the institution in a lump sum or in instalments as the Society or Committee think fit."

Mr. H. LAWSON said that he did not think that the right honourable gentleman appreciated the position of the great hospitals. He admitted that a broad line was drawn between the provincial hospitals and London hospitals. In the former case 60 or 90 per cent. of the cost of maintenance was furnished by working men through their workshop collections, but in London a relatively small proportion of their funds came from the working classes, and by far the greater proportion was contributed by the well-to-do. As a result of the Insurance Act the subscription had fallen off, and at the same time additional work had been imposed upon them. If a workman received a lump sum after receiving the highest form of treatment in a hospital, the least he could do would be to recognise his obligation to the hospital.

Mr. H. W. FORSTER thought that the insured persons without dependents ought really to have some opportunity of contributing to the funds of hospitals where they received treatment.

Mr. G. ROBERTS pointed out that compulsion to contribute to the funds of hospitals would give rise to a demand for their public control.

Mr. MASTERMAN suggested that the Friendly Societies ought to be allowed to go on working the Act before the whole hospital problem was opened up. So far from injuring hospitals his proposal would benefit them.

Mr. BATHURST's proposal to repeal Section 12 of the principal Act was withdrawn and Mr. MASTERMAN's proposal was added to the Bill as a new clause.

Mr. BATHURST moved a new clause to the effect that when a medical practitioner was summoned by a midwife under the rules made under the Midwives Act, 1902, the fee would be irrecoverable as part of the maternity benefit. Mr. MASTERMAN stated that the medical man would retain the civil rights in regard to the recovery of the fee as before the passing of the Act. The clause was then added to the Bill.

The Medical Amendments.

Several amendments affecting the position of the medical profession stood on the notice paper on Wednesday, July 30th. Sir PHILIP MAGNUS had clauses dealing with the restriction of medical benefit, extra charges of doctors on lists, attendance of a second medical man, diseases caused by misconduct of the insured, and definition of income from all sources. Mr. GODFREY LOCKER-LAMPSON had given notice of clauses dealing with the limit of number of insured persons on a medical man's list, the administration of medical benefit, free choice of doctor, and medical attendance for persons away from home. The proposed clause dealing with the administration of medical benefit gave certain powers to Approved Societies to administer medical benefit.

On Wednesday, July 30th, Mr. MASTERMAN made a statement to the Committee on the future of the Bill. The Committee had been sitting, he said, for seven days, and the actual text of the Bill had taken only four days to consider. The Committee had spent three days in the consideration of proposed new clauses, and many others still stood on the paper for consideration. He admitted that the discussion had been useful, but it was evident if the Committee were to go on discussing all the new clauses on the paper it would prevent the Bill passing, as the time available for its consideration before the end of the Session was strictly limited. He could not promise that the Bill would not be jeopardised if it was not reported to the House at the end of this week. Therefore he must ask the Committee to make some arrangement to pass the Bill this week, and he would appeal to honorary Members not to press forward clauses which the Government could not accept. For example, the honorary Member for London University (Sir Philip Magnus) had on the notice paper a series of proposed new clauses which reopened the whole question of the settlement come to with the medical profession in January last, and in terms every point moved in connexion with the original Bill was to be moved again in connexion with this Bill. Quite frankly, it would be impossible for the Government to accept any of them, and if they were moved the Committee would be spending hours and days in a purely academic discussion. He was in the hands of the Committee, and he suggested that attention should be concentrated on non-controversial clauses, and that others should not be moved.

Mr. H. W. FORSTER said that the Opposition had no desire to jeopardise the Bill. As it was desirable that there should be an interval between the Committee and the report stage, he suggested that the Committee stage should be finished to-morrow (Thursday).

Sir PHILIP MAGNUS expressed regret that the right honourable gentleman had singled out his proposed new clauses for remark. There was a suggestion that he had put them down with a view to obstructing the passage of the Bill.

Mr. MASTERMAN said that he had not the slightest suggestion of that kind in his mind.

Sir PHILIP MAGNUS accepted the explanation. The right honourable gentleman said that the Government would not be prepared to accept any one of his clauses. The points to which these clauses referred were very important indeed, and he would endeavour to take only a small part in the discussion. The matters with which they dealt had arisen out of the working of the Act. The whole object of his clauses was to render the medical service more efficient than it had been in the past. The medical service was of the utmost importance. It was unfortunate that the right honourable gentleman should have said that he would not be prepared to listen to any argument on these medical clauses. They were not the same amendments as had been discussed on the original Bill, and he would retain his liberty to put them down on the report stage even if they occupied a certain amount of time.

Mr. LYNCH hoped that the Government would treat the proposed new clauses of the honourable Member for Salisbury (Mr. GODFREY LOCKER LAMPSON) in the same way as those which were proposed by the honourable Member for London University.

Sir H. CRAIK considered that the proposed clauses for the protection of medical men should not be withdrawn unless the proposed clauses which affected their position in the opposite direction were also withdrawn.

Mr. MASTERMAN said that he would confer with honourable Members in private as to the non-controversial administrative clauses which should be taken. The suggestion of the honourable Member for the Universities of Glasgow and Aberdeen (Sir H. CRAIK) was a fair one. He thought that if no amendments were proposed which would improve the position of medical men, no amendments should be proposed which would worsen it. He did not think that the clauses proposed by the honourable Member for Salisbury should be taken.

The discussion on these points then came to an end, the understanding being that the consideration of the Bill in Committee should conclude on the following day (Thursday).

None of the proposed new clauses dealing with the position of the medical profession were moved in the course of the sitting.

A new clause setting up Local Pharmaceutical Committees was agreed to and embodied in the Bill. It was in the following terms:—

"In every county or county borough there shall be elected in accordance with regulations made by the Insurance Commissioners, by the persons, firms, and bodies corporate, who have agreed to supply drugs, medicines, and appliances to insured persons whose medical benefit is administered by the Committee, a Local Committee, and it shall, subject to regulations made by the Insurance Commissioners, be consulted by the Insurance Committee on all general questions affecting the supply of drugs, medicines, and appliances to insured persons, and shall perform such duties and exercise such powers as may be determined by the Insurance Commissioners."

The Committee adjourned.

The Payment of Maternity Benefit.

On Monday, July 28th, the Committee discussed the question of the payment of maternity benefit. A new clause was read a second time declaring that in every case the maternity benefit should be for the benefit

of the mother of the child, and that the money should be paid to the mother or to some person nominated by her. In the further discussion of this clause Mr. CHIOZZA MONEY moved to delete the option of having the money paid to a person nominated by the mother. Both Mr. MASTERMAN for the Government and Mr. FORSTER on behalf of the Opposition spoke against the power of nomination, which they submitted would lead to grave abuse. Several members of the Labour Party were also against the power of nomination, contending that to prevent the husband from touching the money altogether would be to cast a great slur on the working men of the country. Eventually Mr. CHIOZZA MONEY's amendment was carried by 34 votes to 11. In the course of further debate Mr. GLYN-JONES suggested that the exact amendments under which the money should be paid should be left for further consideration before the report stage.—Mr. MASTERMAN thought this suggestion was a good one. He agreed to accept the decision of the Committee so far as it had gone, that maternity benefit was to be for the benefit of the mother, and it was to be paid to her in some fashion. He would try to find out what administrative changes would be the most satisfactory. Accordingly further consideration of the matter was dropped for the present.

Ireland and Medical Benefit.

Mr. O'GRADY moved a new clause proposing that medical benefit should be extended to Ireland.

Mr. MASTERMAN recalled that a Departmental Committee had been appointed to inquire into the whole question of medical benefit in Ireland, and the Chancellor of the Exchequer had given a pledge that nothing would be done in the matter until it had reported. He therefore hoped the proposed clause would not be passed.

Mr. DEVLIN remarked that the Committee had completed its work, and the evidence disclosed that there was a desire that medical benefit should be extended to the county boroughs in Ireland.

The amendment was rejected by 28 votes to 19.

The Committee adjourned.

Medical Prescriptions Bill.

A Bill has been introduced into the House of Lords by Lord Lamington to prevent the undue use of certain medical prescriptions. It was read a first time.

Grievances of the Royal Army Medical Corps.

Speaking in the debate on Army Estimates on Wednesday, July 30th, Colonel SEELY, the Secretary of State for War, paid a tribute to the work of the Royal Army Medical Corps, their scientific knowledge and their devotion to their duty. He would give sympathetic consideration to any grievances which they had.

HOUSE OF COMMONS.

WEDNESDAY, JULY 23RD.

Arrangements for Treatment of Insured Tuberculous Persons.

Mr. R. GWYNNE asked the President of the Local Government Board whether the disqualification attached under the National Insurance Act to the Metropolitan Asylums Board in regard to entering into arrangements with Insurance Committees for the treatment of insured persons suffering from tuberculosis could be removed if the Public Health (Prevention and Treatment of Disease) Bill was passed as now drafted.—Mr. BURNS replied: The answer is in the affirmative.

Vaccination.

Replying to Mr. G. GREENWOOD, Mr. BURNS wrote: I have no information showing that the public vaccination of infants under 3 months of age is prohibited in Germany. In England and Wales a public vaccinator contracts to vaccinate within four weeks after receipt of a request to do so, but in the absence of such a request he usually does not offer to vaccinate until after the child has attained the age of 4 months and the vaccination officer has given him notice that the vaccination laws have not been complied with in respect of the child.

The Home Office Vote.

In the course of the debate on the Home Office Vote in Committee of Supply,

Mr. MCKENNA (the Home Secretary), replying to various criticisms, said that he would be glad to furnish to the House the figures as to the working of the regulations on the use of lead in regard to lead poisoning, but it was a little early yet to say how the new regulations would work. The humidity in weaving sheds had been referred to. The regulations on this matter were now put in force, and he understood that hydrometers were now being supplied. He would make inquiries on the point. As to the question of "shuttle-kissing," it was said that the experiments which had been made were not very successful. Conferences had been held on the subject, and these would be resumed.

Mr. ELLIS GRIFFITH (Under Secretary of State for the Home Department) at a later stage said that the point had been raised whether under the Workmen's Compensation Act it would not be better that, instead of having medical referees paid by fee from case to case, State medical referees probably under whole time terms ought to be appointed. If under the National Insurance Act State medical referees were appointed for other purposes, he did think, without pledging the Home Office in any way, that that perhaps altered the whole complexion of the case, and it might be possible then to consider the subject from a much more sympathetic point of view.

Public Health (Prevention and Treatment of Diseases Bill.

On the motion for the second reading of the Public Health (Prevention and Treatment of Disease) Bill Dr. ADDISON asked for an explanation of several points involved in the measure.—Mr. BURNS (President of the Local Government Board) said: The object of this Bill is primarily to enable the Metropolitan Asylums Board to carry out more promptly the provision of sanatoria under the Insurance Act, and to do effectively as they desire to do the work which has been put upon them by the Act. Clause 4, which removes the disability under which the Metropolitan Asylums Board now labour, really answers my honourable friend's question if he will read it closely, because it says: "It shall be lawful for the managers of the Metropolitan Asylums District, with the sanction of the Local Government Board, to enter into agreements for the reception into hospitals provided by the managers of patients suffering from any disease, and for this purpose the managers shall be deemed to be a sanitary authority." My honourable friend asks for a definition of "sanitary authority." I can assure him that there is no intention under this Bill of devolving upon the Metropolitan Asylums Board any of the public health duties and functions now exercised either by the borough councils or by the County Council. It is limited to the institutional treatment of disease, infectious disease, tuberculosis, and so forth, in regard to which the Board are anxious to have increased power. With regard to Clause 3, which runs, "It shall be lawful for the council of any county or county borough to make any such arrangements as may be sanctioned by the Local Government Board for the treatment of disease and for the provision of laboratory facilities for use in connexion with the treatment or prevention of disease," we propose not to retain the two lines, "and for the provision of laboratory facilities for use in connexion with the treatment or prevention of disease." The disease primarily intended to be dealt with under Clause 3 is tuberculosis; but in the event of a tubercular patient suffering at the same time from some other disease, it is intended that there shall not be a disability on the part of the Board to deal with that complaint other than the major disease for the treatment of which the patient was removed to the institution. I trust with these explanations that the House will allow the Bill to pass, and thereby give the Metropolitan Asylums Board that extra facility which it is entitled by the past excellent way in which it has met the emergency of the Insurance Act both with courage and resource, and so enable it to continue that good work. The chairman of the London Insurance Committee has seen the Bill and approved of it.

THURSDAY, JULY 24TH.

Ireland and Mental Deficiency.

Mr. WATT asked the Chief Secretary to the Lord Lieutenant of Ireland whether he proposed to introduce a Mental Deficiency Bill for Ireland; and, if not, why this exception was made of that country, in view of the fact stated by the Royal Commission on the Care and Control of the Feeble-minded that 66 per cent. of the 25,415 mentally defectives in Ireland, outside of asylums, were in need of immediate provision being made for them, whereas in England and Wales the percentage was 44, and in Scotland 35.—Mr. BIRRELL said in reply: It would be impossible to introduce a Mental Deficiency Bill for Ireland during the present session.

The Resident Medical Superintendent of Peamount Sanatorium.

Sir JOHN LONSDALE asked the Chief Secretary to the Lord Lieutenant of Ireland whether the resident medical superintendent of the Peamount Sanatorium had any duties to perform which made it necessary that he should be of the same religion as the majority of the patients; and whether the Local Government Board proposed that in all similar institutions the choice of the chief medical officer should be decided upon religious grounds.—Mr. BIRRELL replied: The answer to both parts of the question is in the negative.

Sir JOHN LONSDALE further asked the right honourable gentleman whether he was aware that, although the Peamount Sanatorium had been open for nearly a year, the patients during almost the whole of that time had not been under the charge of a resident medical superintendent who possessed the qualifications prescribed by the Local Government Board to undertake the care and treatment of consumptives; whether the Board's approval was necessary to enable a sanatorium to be used for insured persons; and whether he had at any time directed the Local Government Board to notify to the Women's National Health Association that the Board would suspend their approval unless and until the management of the institution was placed in the hand of a duly qualified resident medical superintendent.—Mr. BIRRELL answered: The delay in the appointment of a resident medical superintendent for the Peamount Sanatorium has been due to the desire of the Women's National Health Association that the selection should be made by a fully constituted management committee, including representatives of the county councils which have taken beds in the sanatorium. But from the first, when the patients numbered only 20, the institution was in the temporary charge of Dr. Joseph Daniell as visiting physician with a most competent resident Irish lady doctor, Dr. Gaffigan, who as assistant medical officer of health in Huddersfield and Warrington, and as medical officer under the education authority at Enfield, Middlesex, has had a great and varied experience. Dr. Daniell is a tuberculosis expert and is in charge of an important tuberculosis dispensary in Dublin. In view of these provisional arrangements the Local Government Board sanctioned the admission of patients to the institution as required by the provisions of the National Insurance Act of 1911. The authorities of the Women's National Health Association have been most anxious to obtain the services of a resident medical superintendent possessing the necessary medical qualifications with experience in the management of a sanatorium. A considerable number of eligible candidates have now applied, and an election will be held within the next few days which it is hoped will result in the selection of a suitable person to fill the vacant post.

Medical Men and the Granting of Certificates.

Major WHITE asked the Secretary to the Treasury whether his attention had been called to the resolution passed unanimously last week by the Manchester medical committee repudiating his reference to a Manchester committee of an equal number of medical men and representatives of the Approved Societies as his authority for the charges against the medical profession of Lancashire with regard to the issuing by medical men, owing to a feeling of hostility to the National Insurance Act, of unwarranted certificates, and calling upon him to substantiate these charges; and whether he proposed to take any action in the matter.

Mr. GLAZEBROOK asked the right honourable gentleman whether his attention had been drawn to a resolution passed by the Manchester medical committee denying the existence of a Manchester committee composed of an equal number of medical men and representatives of Approved Societies upon the authority of which a charge had been made against the medical profession of Manchester, denying the charge

of fraudulent certification, and demanding the substantiation or withdrawal of the charge; and, if so, whether he would comply with the demand.—Mr. WEDGWOOD BENN answered: My right honourable friend asks me to say that he has nothing to add to the answer which was given yesterday to the honourable Member for Glasgow University (Sir H. Craik).

Major WHITE: May I ask whether we are to understand definitely there is no charge, although one was at first implied, against the medical profession in Lancashire to the effect that they improperly granted certificates?—Mr. WEDGWOOD BENN: I think that the honourable Member must refer to the statement made in the debate last week by my right honourable friend. Perhaps he will await the report of the Departmental Committee which is investigating figures that I gave yesterday.

Preparation of Calf Lymph.

Mr. SNOWDEN asked the President of the Local Government Board whether he was aware that in his report for the year 1911-12 Dr. F. R. Blaxall, bacteriologist for glycerinated calf lymph at the Government lymph establishment, announced that experiments had been made with carbolic acid, chloroform, and oil of cloves in the preparation of lymph; whether Dr. Blaxall stated there was still much work to be done on the subject and further experiments were in progress; whether this denoted that the glycerinated calf lymph now in use was imperfect; and whether he would consider the advisability of suspending the issuing of lymph from the Government establishment until a satisfactory virus had been obtained.—Mr. BURNS replied: The answers to the first two parts of the question are in the affirmative. The experiments were not undertaken because the lymph which is now issued from the Government lymph establishment is imperfect, but for the purpose of ascertaining whether some more rapid method of preparing the lymph than that which is now adopted might be available.

Bovine Tuberculosis.

In reply to Mr. MOUNT, Mr. RUNCIMAN said: According to the information supplied to the Board of Agriculture by the local authorities up to this date 1559 bovine animals have been slaughtered under the Tuberculosis Order, but I am unable to say what number of animals have been otherwise dealt with under the Order. Up to June 24th 1747 animals had been notified to the local authorities, under the order of which 965 had been slaughtered. Claims for contribution to the cost of compensation have been received from only a few authorities up to the present, and it is impossible to estimate with any precision how much is due.

MONDAY, JULY 28TH.

The Investigation of Venereal Disease.

Dr. CHAPPLE asked the Prime Minister whether his attention had been called to a unanimous resolution of the British Medical Association, now meeting at Brighton, that a Royal Commission should be appointed in order to investigate the public health aspect of venereal disease, and whether he intended to act upon this suggestion.—Mr. ASQUITH answered: The suggestion is receiving careful consideration. I can say nothing more at present.

Medical Arrangements for Insured Persons at Wisbech.

Sir H. CRAIK asked the Secretary to the Treasury whether he was aware that the panel of doctors at Wisbech had been closed since Jan. 10th and that several doctors who were prepared now to join the panel had been refused admission by the Local Insurance Committee, and that the choice of doctors was thus materially narrowed to insured persons in that district; and whether, in order to restore such choice, he could give an undertaking that the present arbitrary restriction on the panel would be brought to an end.—Mr. WEDGWOOD BENN (on behalf of Mr. MASTERMAN) answered: Owing to the fact that the local doctors declined to serve under the Act the Insurance Committee were unable to secure an adequate medical service for the district under the normal panel arrangements. At the request of the Insurance Committee, therefore, and in order that they might discharge their obligation to provide medical benefit, the normal panel system was suspended under the proviso to Section 15 (2) of the Act, and alternative arrangements suggested by the Insurance Committee were authorised whereby the Committee appointed certain doctors to undertake the entire responsibility for the treatment of all insured persons in the district. I cannot alter the terms upon which these doctors have been appointed.

Tuberculosis Officers.

Answering Mr. ASTOR, Mr. BURNS (President of the Local Government Board) said: The appointments of 78 tuberculosis officers have been approved by the Local Government Board. Approval has been given in these cases after obtaining the concurrence of the Insurance Commissioners, and the officers appointed possess the necessary qualifications. There may be some cases of appointments which have been made, but which have not yet been reported to the Board.

BOOKS, ETC., RECEIVED.

KIMPTON, HENRY, London. STENHOUSE, ALEXANDER, Glasgow.

Asthma and its Radical Treatment. By James Adam, M.A., M.D., F.R.F.P.S., Hamilton, Dispensary Aural Surgeon, Glasgow Royal Infirmary. Price 5s. net.

The Modern Treatment of Nervous and Mental Diseases. By American and British Authors. Edited by William A. White, M.D., Superintendent of the Government Hospital for the Insane, Washington, D.C., and Smith Ely Jelliffe, A.M., M.D., Ph.D., Adjunct Professor of Diseases of the Mind and Nervous System in the Post-Graduate Medical School and Hospital. Two Volumes. Price £3 net.

KING, P. S., AND SON, London.

National Service and National Education. By Eric George. With an Introduction by Lord Henry Cavendish-Bentinck, M.P. Price 1s. net.

LAURIE, T. WERNER, LIMITED, Clifford's Inn, London.

The Cathedrals of Southern France. By T. Francis Bumpus. Price 6s. net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

CHARITY ORGANISATION SOCIETY, Denison House, Vauxhall Bridge-road, London, S.W.

The Annual Charities Register and Digest. By C. S. Loch, Secretary to the Council of the Charity Organisation Society, London. Twenty-second edition. Price 5s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

DODD, H. WORK, F.R.C.S. Eng., has been appointed Consulting Ophthalmic Surgeon to the Royal Free Hospital.

DONALDSON, MALCOLM, M.B., B.C. Cantab., has been appointed Demonstrator of Midwifery in the Medical School of St. Bartholomew's Hospital, the election dating from October, 1913.

ECCLES, MCADAM, M.C. Lond., F.R.C.S. Eng., has been appointed Surgeon to the London Temperance Hospital.

EVANS, ARTHUR HENRY, M.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to the London Temperance Hospital.

FAILL, CHARLES JAMES CAMPBELL, M.R.C.P. Edin., L.R.C.S. Edin., has been appointed Tuberculosis Medical Officer for the City and County of Bristol.

FRENCH, J. GAY, M.B., M.S. Lond., F.R.C.S. Eng., has been appointed Surgeon in Charge of the Throat, Nose, and Ear Department at the Royal Free Hospital.

HEPBURN, M. L., M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Ophthalmic Surgeon to the Royal Free Hospital.

HIGGINS, T. SHADICK, M.D. Lond., D.P.H. Camb., has been appointed Medical Officer of Health of St. Pancras.

HOSFORD, JOHN STROUD, M.R.C.S., L.R.C.P. Lond., has been appointed Ophthalmic Surgeon to the London Temperance Hospital.

MCCLURE, JAMES, F.R.C.S. Eng., has been appointed Surgeon to Out-patients at the London Temperance Hospital.

MILLER, CHARLES HEWITT, M.D. Cantab., M.R.C.P. Lond., has been appointed Assistant Physician to the London Hospital.

PATERSON, H. J., M.C. Cantab., F.R.C.S. Eng., has been appointed Surgeon to the London Temperance Hospital.

PAYNE, JOHN ERNEST, M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Torbay Hospital, Torquay.

PERNET, GEORGE, M.D. Paris, M.R.C.S., L.R.C.P. Lond., has been appointed Dermatologist to the West London Hospital and Lecturer on Dermatology to the West London Post-graduate College.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYRSHIRE SANATORIUM, New Cumnock.—Assistant to Resident Medical Officer. Salary £150 per annum, with board and rooms.

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £100 per annum, with board and residence.

BEDFORDSHIRE COUNTY COUNCIL.—Tuberculosis Medical Officer. Salary £500 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House Surgeon. Salary £30 per annum, with residence and board.

BIRMINGHAM, UNIVERSITY OF.—Lecturer on Pathology and Bacteriology in University and Visiting Pathologist to General Hospital.

BOOTLE BOROUGH HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with residence, board, and laundry.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £80 per annum, with board, rooms, and attendance.

BRISTOL ROYAL INFIRMARY.—House Physician. Salary at rate of £100 per annum, with apartments, board, and laundry. Also House Surgeon. Salary at rate of £100 per annum, with apartments, board, and laundry.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon for six months. Salary at rate of £30 per annum, with residence, board, and washing.

CAMBRIDGE, ADDENBROOKE'S HOSPITAL.—House Surgeon and Second House Surgeon, each for six months. Salary in each case £80 per annum, with board, residence, and laundry.

CANCER HOSPITAL, Fulham-road, S.W.—First Assistant to Research Department. Salary £350 per annum. Also House Surgeon for six months. Salary £70 per annum.

CANTERBURY MENTAL HOSPITAL, Canterbury.—Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, washing, and attendance.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer, unmarried. Salary £180 per annum, with board, apartments, and washing.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd-street, W.C.—Bacteriologist. Salary £50 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

CHESTER GENERAL INFIRMARY.—House Physician. Salary £80 per annum, with residence and maintenance.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Two House Physicians for six months. Salary at rate of £75 per annum, with board, residence, and washing.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

COLONIAL MEDICAL SERVICE.—EAST AFRICA PROTECTORATE: Six Temporary Medical Officers. Salary £400 per annum. WEST AFRICAN MEDICAL STAFF: Appointments. Salary £400 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—Senior House Surgeon, House Physician, and Junior House Surgeon. Salary of former £120 per annum, and of two latter £90 per annum each, with residence, board, laundry, and attendance.

DERBYSHIRE COUNTY COUNCIL.—Assistant Tuberculosis Officer and School Medical Officer. Salary £400 per annum.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with board and laundry.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £65 per annum, with board and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

FOLKESTONE, ROYAL VICTORIA HOSPITAL.—House Surgeon. Salary £100 per annum, with apartments, board, and laundry.

GATESHEAD DISPENSARY.—Assistant Medical Officer. Salary £200 per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary £150 per annum, with board, lodging, and laundry.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

GRIMSBY AND DISTRICT HOSPITAL.—Senior House Surgeon. Salary £100 per annum. Also Junior House Surgeon. Salary £80 per annum, with board, lodging, attendance, and washing.

HALIFAX ROYAL INFIRMARY.—Second House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

HITCHIN, THREE COUNTIES ASYLUM.—Third Assistant Medical Officer. Salary, if married, £250 per annum; if unmarried, £150 per annum, with board, apartments, washing, and attendance.

INDIA, IMPERIAL BACTERIOLOGICAL (VETERINARY) LABORATORY, Muktesar.—Assistant Bacteriologist. Also Pathologist. Salary will not be less than £480 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum and board.

LANARK, COUNTY OF, DISTRICT OF THE UPPER WARD.—Tuberculosis Officer and Assistant Medical Officer of Health. Salary £300 per annum.

LANCASTER, BOROUGH OF.—Medical Officer of Health. Salary £400 per annum.

LIVERPOOL CITY INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

LONDON HOMŒOPATHIC HOSPITAL, Great Ormond-street, and Queen-square, Bloomsbury, W.C.—Assistant Physician for Diseases of Children.

LOWESTOFT HOSPITAL.—House Surgeon, unmarried. Salary at rate of £150 per annum, with board, residence, and laundry.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £160 per annum, with apartments, attendance, &c.

MANCHESTER WORKHOUSE, Crumpsall.—Junior Resident Assistant Medical Officer, unmarried. Salary £110 per annum, with rations, apartments, washing, attendance, &c.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Senior House Surgeon. Salary at rate of £100 per annum for first six months and £120 per annum for second six months, with board, residence, and laundry.

MIDDLESEX HOSPITAL, W.—Assistant Medical Officer to Electrical Department. Salary £50 per annum.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NEWPORT (MON.), ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

PARK HOSPITAL FOR CHILDREN, Hither Green, London, S.E.—Two Assistant Medical Officers. Salary £150 per annum, with board, lodging, and washing.

PLYMOUTH, BOROUGH OF.—Tuberculosis Officer. Salary £500 per annum.

"PORT JACKSON" TRAINING SHIP.—Surgeon for nine months.

PRESTON, COUNTY ASYLUM, Whittingham, Lancs.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and washing.

PRESTON ROYAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

READING, ROYAL BERKSHIRE HOSPITAL.—Second House Surgeon. Salary at rate of £80 per annum, with lodging, board, and washing.

RICHMOND, SURREY, ROYAL HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board and apartments.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five appointments.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House Surgeon, unmarried. Salary £125 per annum.

ST. ALBANS, HERTS COUNTY ASYLUM, Hill End.—Second Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

ST. MARYLEBONE INFIRMARY, Rackham-street, Notting Hill, W.—First Assistant Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

ST. PAUL'S HOSPITAL FOR SKIN DISEASES, Red Lion-square, Holborn.—Clinical Assistants.

SALISBURY GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with apartments, board, and lodging.

SHEFFIELD ROYAL INFIRMARY.—Two Resident Medical Officers. Salary £70 per annum, with board and residence.

SMETHWICK, COUNTY BOROUGH OF.—Tuberculosis Officer and Assistant Medical Officer of Health. Salary at rate of £500 per annum.

SOMERSET COUNTY COUNCIL.—Assistant School Medical Officer. Salary £275 per annum.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Surgeon for six months. Salary at rate of £100 per annum, with rooms, board, and washing.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

SUNDERLAND, DURHAM COUNTY AND SUNDERLAND EYE INFIRMARY.—Locum for House Surgeon for September. Salary £5 5s. per week.

SUNDERLAND ROYAL INFIRMARY.—House Physician and Two Junior House Surgeons. Salary £90 per annum in each case, with board, residence, and laundry. Also Senior Resident. Salary £150 per annum, with board and apartments.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and attendance.

UNITED PROVINCES DUFFERIN FUND ASSOCIATION.—Medical Woman for one of the large Dufferin Hospitals of the United Provinces. Salary Rs. 300 per mensem, with house.

VIRGINIA WATER, SURREY, HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, laundry, and attendance.

WARWICKSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary £250 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House Surgeon. Salary at rate of £100 per annum. Also Junior House Physician. Salary at rate of £75 per annum.

WEST HAM, COUNTY BOROUGH OF.—Two Temporary Assistant School Medical Officers for six months. Salary at rate of £250 per annum.

WEST SUSSEX COUNTY COUNCIL.—Tuberculosis Officer. Salary £500 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House Surgeon.

WILTS COUNTY COUNCIL.—County School Dentist. Salary at rate of £250 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £125 per annum, with board, rooms, and laundry.

WORCESTERSHIRE COUNTY COUNCIL.—Assistant School Medical Officer. Salary £250 per annum.

WORCESTER GENERAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and washing.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Dufftown, in the county of Banff; and at Ramsgate, in the county of Kent.

Births, Marriages, and Deaths.

BIRTHS.

BLOMFIELD.—On July 23rd, at Queen's-road, Peckham, S.E., the wife of Alfred Blomfield, M.R.C.S., L.R.C.P., of a son and daughter.

DICK.—On July 26th, at "Morven," Sevenoaks, the wife of R. J. Dick, M.D., of a son.

EVANS.—On July 25th, at Princes-avenue, Hull, the wife of Harry Loft Evans, M.R.C.S., L.R.C.P., of a son.

GANDY.—On July 23rd, at Norwood, the wife of E. Worsley Gandy, M.R.C.S., L.R.C.P., of a daughter.

GWYNNE-JONES.—At Sutterton, Lincolnshire, on July 28th, to Gertrude, wife of Dr. Gwynne-Jones, a son.

SPEIRS.—On July 25th, at Old Kent-road, S.E., the wife of T. Orr Speirs, M.D., of a daughter.

WALDRON.—On July 22nd, at Lauderdale Mansions, W., the wife of Derwent H. R. Waldron, M.B., C.M., Barrister-at-Law, of a son.

MARRIAGES.

BLAKEWAY—GRIFFITH.—On July 24th, at Horsell Parish Church, Woking, Harry Blakeway, M.S., F.R.C.S., to Marjorie Campbell, younger daughter of Frank Griffith, Minebridge House, Chobham.

DINGWALL-FORDYCE—WARREN.—On July 16th, at St. Paul's Church, Ramsgate, A. Dingwall-Fordyce, of Culsh, Aberdeenshire, M.D., F.R.C.P. Edin., to Bessie Ianthe Sutherland, widow of Captain Frank Warren, R.A., daughter of Dr. John Sutherland Gunn, I.M.S.

FINN—BATES.—On July 23rd, at St. Michael's, Chester-square, Allan Rigden Finn, M.D., F.R.C.S., to Jeanie Victor Bates, only daughter of Mr. and Mrs. Isaac Bates, of Blenheim-gardens, N.W., and Wilmington, North Carolina, U.S.A.

DEATHS.

SHERWOOD.—On July 25th, very suddenly, on the premises of the Union Society, Oxford, Martin Sherwood, D.D.S. Toronto, L.D.S. R.C.S.I.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

STUDENTS' NUMBER OF THE LANCET.

INFORMATION intended for the Students' Number of THE LANCET must be sent WITHOUT DELAY, addressed to the Sub-Editor, and marked on the envelope "Students' Number Only."

MEDICAL EDUCATION IN THE PHILIPPINES.

THE University of the Philippines was founded under the authority of the United States by an Act of the Philippine Legislature in January, 1911. It includes faculties of arts, of medicine and surgery, agriculture, veterinary science, engineering, law, and a school of fine arts, each possessing an educational college. The entire teaching staff of the University consists of 12 full professors, 8 professorial lecturers, 20 associate professors, 18 assistant professors, 57 instructors, 10 lecturers on law, 21 lecturers on special topics, and 7 assistants. The medical college, founded in 1905, before the University was established, as the Philippine Medical School, claims of the professors 7, associate professors 12, assistant professors 6, instructors 14, with 2 temporary instructors, special lecturers 16, and assistants 6. A five years' course is required. Clinical facilities are afforded by the Philippine General Hospital (200 beds), with its free dispensary, Bilibid prison hospital, the hospital for infectious diseases of San Lazaro, with its departments for incurable tuberculosis, smallpox, diphtheria, plague, cholera, and other dangerous communicable diseases, San Juan del Monte tuberculosis sanatorium, the Gota de Leche for under-developed and abnormal children, and the municipal and tuberculosis free dispensaries of Manila. During last year more than 80,000 patients passed through the clinics. There is ample laboratory accommodation with facilities for individual work by students in animal experimentation, and a sufficient supply of all the ordinary laboratory animals to meet the requirements of the courses as well as for purposes of investigation. There are also a Graduate School of Tropical Medicine and Public Health, in which courses of instruction are given throughout the year. The school gives the Degrees of Doctor of Tropical Medicine (D.T.M.) and Doctor of Public Health (D.P.H.).

A NEW SCREW AND SCREW-DRIVER FOR USE IN THE OPERATIVE TREATMENT OF FRACTURES.

To the Editor of THE LANCET.

SIR,—With reference to the new screw and screw-driver described and illustrated in THE LANCET of July 26th, p. 229, it may be of historical interest to record that about 15 years ago I invented such a screw-driver and screw, which I termed "The Cross-headed Screw and Screw-driver," but non-magnetic. I had, however, the advantage of submitting the invention to the late Sir Samuel Canning, the engineer of the *Great Eastern* steamship, and the late Mr. Henry Wallace Hunt, the well-known engineer, and by their advice I did not proceed with the idea. They thought that the extra cross slit on the head of the screw would be more likely to attract and hold rust and so split the head of the screw, although it might be of advantage for big railway bolts. Of course, this objection does not apply to its surgical use, which was an application out of my province. I am pleased to see the idea applied. I may not have been the originator of the idea.

I am, Sir, yours faithfully,

London, July 26th, 1913. F. W. WHITE.

SLEEPING SICKNESS IN NYASALAND.

THE Principal Medical Officer of the Nyasaland Protectorate continues his interesting Diary on Sleeping Sickness. From Part XX. we learn that 20 cases of sleeping sickness were reported in the four months ending April 30th, of which 19 were in the "sleeping sickness area" and 1 in the Marimba district. The cases are described individually. The total number is now 128. The work of clearing brush and scrub and lopping trees in the sleeping sickness area is reported by Dr. Couran, medical officer in charge, as being attended with marked success in banishing the tsetse flies from the villages. A reinvestigation of districts north and south of the proclaimed area is shortly to be undertaken.

MADEIRA.

ACCORDING to the annual report of H.M. Consul (Captain James Boyle) the total population of Madeira at the end of December, 1912, was 168,820. There were 6532 births during the year and 3537 deaths. Public health, taking everything into consideration, was good, but this was due more to good luck than anything else, all sanitary arrangements outside Funchal being most inadequate. The carrying out of the proposed water-supply and drainage system for Funchal has again for the moment been delayed. There is a scheme on foot to raise a loan for widening the streets in Funchal and improving the roads all over the island. If the proposal could be carried out, not only would it be a great attraction to all coming to the country to visit the places of interest, which are now practically inaccessible except by riding or by hammocks, but would be of the greatest advantage to the inhabitants themselves. The authorities might even go further and erect small rest houses (as in India) where one could sleep instead of having to return to Funchal each evening as is now necessary. A very good paved road, which motors can use, has been made from Funchal to the east, passing the Brazen Head and as far as Canico, and it is eventually to be carried on as far as Santa Cruz and Machico. The funicular railway, which originally went only as far as Monte, some 2000 feet up, has been prolonged another 1000 feet to Tarreiro de Luta, and it is proposed to prolong the line still further. An up-to-date restaurant has been erected where the railway stops. It is much to be regretted that the railway charges for tourists are more than double what they are for residents.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 26th–Nov. 5th (Ghent).—International Exhibition.
May 31st to October (London, Earl's Court).—Imperial Services Exhibition.
May–October (Leipzig).—First International Building Exhibition.
June–October (London, Crystal Palace).—Anglo-German Exhibition.
June 24th (opened) (London, 54a, Wigmore-street).—Historical Medical Museum. (Organised by Mr. Henry S. Wellcome.)
Aug. 1st–3rd (Ghent).—Congress against the Adulteration and Deterioration of Foodstuffs.
,, 1st–5th (Brussels).—Third International Conference on Cancer.
,, 3rd–8th (London).—Sixth International Dental Congress.
,, 4th and 5th (London, Caxton Hall).—English-speaking Conference on Infant Mortality.
,, 4th and 5th (London, Central Hall, Westminster).—Fifth Annual Conference, National Association for the Prevention of Consumption.
,, 6th–12th.—(London).—Seventeenth International Congress of Medicine.
,, 20th–26th (Ghent).—Third International Congress of Neurology and Psychiatry.
,, 25th–30th (Buffalo).—Fourth International Congress of School Hygiene.
,, 31st–Sept. 7th (Antwerp).—Fourth International Congress for the Hygiene and Salubrity of Dwellings.
Sept. 2nd–6th (Groningen).—International Physiological Congress.
,, 9th–13th (Vienna).—Second International Congress of Life Saving and Prevention of Accidents.
,, 10th–17th (Birmingham).—British Association.
,, 21st–28th (Vienna).—Eighty-fifth Meeting of German Natural Philosophers and Physicians.
,, 22nd–28th (Milan).—Fourteenth International Anti-alcoholic Congress.
Oct. 23th–Nov. 1st (London, Royal Horticultural Hall).—Twenty-fourth Universal Cookery and Food Exhibition.
(London, Shepherd's Bush).—National Gas Exhibition.
(Chicago).—Congress of the International Association of Refrigeration.
(Washington).—Congress of American Physicians and Surgeons

In 1914:—

April 14th–18th (New York).—Fourth Congress of the International Surgical Society.
May 1st–Nov. 1st (Lyons).—International Town Life Exhibition.

Aug. 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.

Sept. 7th–12th (Berne).—International Congress for Neurology, Psychiatry, and Psychology.

(London).—Anglo-American Exhibition.

(Aberdeen).—Eighty-second Annual Meeting of the British Medical Association.

(Vienna).—Third International Congress for Professional Diseases.

(Auckland, N.Z.).—Australasian Medical Congress.

(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.

(Washington, D.C.).—International Congress of Americanists.

(Paris).—Fourth International Medical Congress on Industrial Accidents.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 30th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
July 24	30·14	N.E.	...	119	71	54	54	58	Cloudy
,, 25	30·20	N.E.	...	119	70	54	54	56	Overcast
,, 26	30·20	N.E.	...	89	67	55	56	58	Cloudy
,, 27	30·28	N.E.	...	78	62	53	54	57	Overcast
,, 28	30·23	N.E.	...	110	75	53	55	56	Overcast
,, 29	30·13	E.	...	110	75	55	57	57	Fine
,, 30	30·04	S.E.	...	77	64	57	58	60	Overcast

The following journals, magazines, &c., have been received:—Man, Polyclinic, Annales de Gynécologie et d'Obstétrique, Child's Guardian, School Hygiene, Clinical Journal, British Review, North of England Clinical Journal, Archiv für Schiffs- und Tropen-Hygiene, Philippine Journal of Science, Archivos Brasileiros de Medicina, Revue d'Hygiène et de Police Sanitaire, American Practitioner, Indian Medical Gazette, Revue de Gynécologie, Archiv für Experimentelle Pathologie und Pharmakologie, Calcutta Medical Journal, Transvaal Medical Journal, Interstate Medical Journal, Biochemical Journal, Medical Chronicle, Homœopathic Record, Archives of Internal Medicine, Journal of Nervous and Mental Disease, Birmingham Medical Review.

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